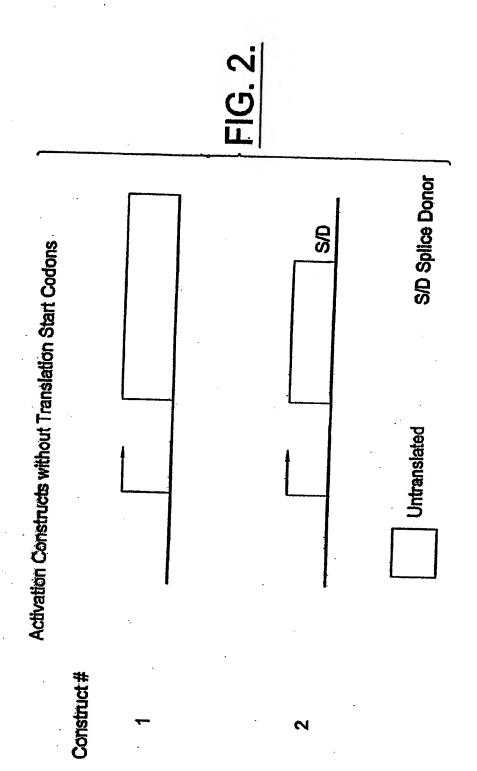
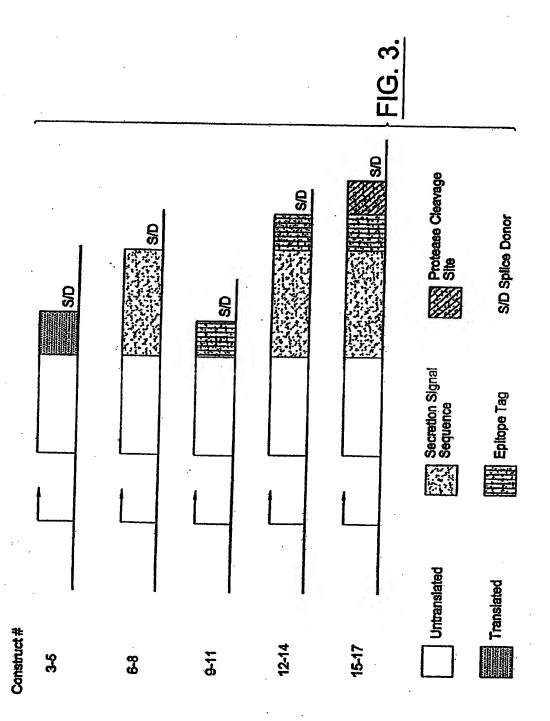


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5' AGATETTEAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC AATATTGGCTATTGGCCATTGCATA CGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACCG CCATGTTGGCATTGATTATTGACT AGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGT TCCGCGTTACATAACTTACGGTAAA TGGCCCGCCTGGCTGACCGCCCAACGACCCCCGCCCATTGACGTCAATAATGACG TATGTTCCCATAGTAACGCCAATAG **GGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGGC AGTACATCAAGTGTATCATATGCCA** AGTCCGCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCC AGTACATGACCTTACGGGACTTTCC -TACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTTTT GGCAGTACACCAATGGGCGTGGAT **AGCGGTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAC** TTTGTTTTGGCACCAAAATCAACGG GACTTTCCAAAATGTCGTAACAACTGCGATCGCCCGCCCCGTTGACGCAAATGGG CGGTAGGCGTGTACGGTGGGAGGTC TATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGAAGCTTTATTGCGG TAGTTTATCACAGTTAAATTGCTAA CGCAGTCAGTGCTTCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCTT **AATTAACTCCACCAGTCTCACTTCA** GTTCCTTTTGCCTCCACCAGTCTCACTTCAGTTCCTTTTGCATGAAGAGCTCAGAA TCAAAAGAGGAAACCAACCCCTAA GATGAGCTTTCCATGTAAATTTGTAGCCAGCTTCCTTCTGATTTTCAATGTTTCTT CCAAAGGTGCAGTCTCCAAAGAGA TTACGAATGCCTTGGAAACCTGGGGTGCCTTGGGTCAGGACATCAACTTGGACAT TCCTAGTTTTCAAATGAGTGATGAT ATTGACGATATAAATGGGAAAAAACTTCAGACAAGAAAAAGATTGCACAATTCA GAAAAGAGAAGAGACTTTCAAGGA AAAAGATACATATAAGCTATTTAAAAATGGAACTCTGAAAATTAAGCATCTGAAG ACCGATGATCAGGATATCTACAAGG TATCAATATATGATACAAAAGGAAAAAATGTGTTGGAAAAAATATTTGATTTGAA GATTCAAGAGAGGGTCTCAAAACCA AGCCTGAGTGCAAATTCAAGTGCA CAGCAGGGAACAAGTCAGCAAGGAATCCAGTGTCGAGCCTGTCAGCTGTCCAG AGAAAGGGATCCAGGTGAGTAGGGCC CGATCCTTCTAGAGTCGAGCTCTCTTAAGGTAGCAAGGTTACAAGACAGGTTTAA **GGAGACCAATAGAAACTGGGCTTGT** CGAGACAGAGAAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCGGCC **GCGAATTCCAAGCTTGAGTATTCTA**

CAACATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCTAATGAGTGACCTAACTCACATTAATTGCGTTGCGCGATGCTTCCATTTTGTGAGGGTTAATGC-

ATTGTTATCCGCTCACAATTCCACA

FIG. 5A.

TCGTGTCACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCCTGTGTGAA

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TTCGAGAAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACAAGAAT GCAGTGAAAAAAATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAA **CCATTATAAGCTGCAATAAACA** AGTTAACAACAACTTGCATTCATTTTATGTTTCAGGTTCAGGGGGGAGATGTGG GAGGTTTTTTAAAGCAAGTAAAACC TCTACAAATGTGGTAAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCGAAT **GGACGCCCCTGTAGCGGCGCATTA** AGCGCGGCGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGCCC TAGCGCCCGCTCCTTTCGCTTTCTTC CCTTCCTTTCTCGCCACGTTCGCCGGCTTTCCCCGTCAAGCTCTAAATCGGGGGG TCCCTTTAGGGTTCCGATTTAGTGC TTTACGGCACCTCGACCCCAAAAAACTTGATTAGGGTGATGGTTCACGTAGTGGG CCATCGCCCTGATAGACGGTTTTTC GCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTGG AACAACACTCAACCCTATCTCGGTC TATTCTTTTGATTTATAAGGGATTTTGCCGATTTCGGCCTATTGGTTAAAAAATGA **GCTGATTTAACAAAAATTTAACGC** GAATTTTAACAAAATATTAACGCTTACAATTTCGCCTGTGTACCTTCTGAGGCGG AAAGAACCAGCTGTGGAATGTGTGT ATGCATCTCAATTAGTCAGCAACCAG CAATTAGTCAGCAACCATAGTCCCGC CCCTAACTCCGCCCATCCCGCCCCTAACTCCGCCCAGTTCCGCCCATTCTCCGCC CCATGGCTGACTAATTTTTTTTATT TATGCAGAGGCCGAGGCCGCCTCGGCCTCTGAGCTATTCCAGAAGTAGTGAGGA **GGCTTTTTTGGAGGCCTAGGCTTTTG** CAAAAAGCTTGATTCTTCTGACACAACAGTCTCGAACTTAAGGCTAGAGCCACCA TGATTGAACAAGATGGATTGCACGC AGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACAACAC ACAATCGGCTGCTCTGATGCCGCCG CGGTGCCCTGAATGAACTGCAGGAC GAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTG CTCGACGTTGTCACTGAAGCGGGAAG **GGACTGGCTGTTTTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCACCTT** GCTCCTGCCGAGAAAGTATCCATCA TGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGA CCACCAATGCGAAACATCGCATCGAG CGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACGAA GAGCATCAGGGGCTCGCGCCAGCCGA **ACTGTTCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTGAC** CCATGGCGATGCCTGCTTGCCGAATA TCATGGTGGAAAATGGCCGCTTTTCTGGATTCATCGACTGTGGCCGGCTGGGTGT **GGCGGACCGCTATCAGGACATAGCG** TTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCTTCC TCGTGCTTTACGGTATCGCCGCTCC CGATTCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCGGGA CTCTGGGGTTCGAAATGACCGACCAAGCGACGCCCAACCTGCCATCACGATGGC-

FIG. 5B.

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TCCGCGTA-ACCCGCCAACAC CCGCTGACGCCCTGACGGGCTTGTCTGCTCCCGGCATCCGCTTACAGACAAGC TGTGACCGTCTCCGGGAGCTGCATG TGTCAGAGGTTTTCACCGTCATCACCGAAACGCGCGAGACGAAAGGGCCTCGTGA TACGCCTATTTTTATAGGTTAATGT CATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGC **GGAACCCCTATTTGTTTATTTTCT** AAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTTCA ATAATATTGAAAAAGGAAGAGTATG AGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTTCC TGTTTTTGCTCACCCAGAAACGCT **GGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTTACATCGA** ACTGGATCTCAACAGCGGTAAGATCC TTGAGAGTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTTCT GCTATGTGGCGCGGTATTATCCCGT ATTGACGCCGGGCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGACT TGGTGAGTACTCACCAGTCACAGA AAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAACC ATGAGTGATAACACTGCGGCCAACT TACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAACAT GGGGGATCATGTAACTCGCCTTGAT CGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACG ATGCCTGTAGCAATGGCAACAACGTT. GCGCAAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATA GACTGGATGGAGGCGGATAAAGTTG CAGGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAATC TGGAGCCGGTGAGCGTGGGTCTCGC GGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCT ACACGACGGGGAGTCAGGCAACTAT GGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGG TAACTGTCAGACCAAGTTTACTCAT ATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAAGGATCTAGGTGAAG **ATCCTTTTTGATAATCTCATGACC** AAAATCCCTTAACGTGATTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAAGA TCAAAGGATCTTCTTGAGATCCTTT TTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACCACCGCTACCAGCGGTG **GTTTGTTTGCCGGATCAAGAGCTAC** CAACTCTTTTTCCGAAGGTAACTGGCTTCAGCAGAGCGCAGATACCAAATACTGT CCTTCTAGTGTAGCCGTAGTTAGGC CACCACTTCAAGAACTCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCTGT TACCAGTGGCTGCTGCCAGTGGCGA TAAGTCGTGTCTTACCGGGTTGGACTCAAGACGATAGTTACCGGATAAGGCGCAG CGGTCGGGCTGAACGGGGGGTTCGT GCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGC GTGAGCTATGAGAAAGCGCCACGCTT CCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGG-

FIG. 5C.

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AGAGCGCACGAGGGAGCTTCCAGGGGGAAACGCCTGGTATCTTTATAGTCCTGTC GGCTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGG GGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCTGGCCTT TTGCTGGCCTTTTGCTCACATGGCT CGAC3'

FIG. 5D.

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5AGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC AATATTGGCTATTGGCCATTGCAT ACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACC GCCATGTTGGCATTGATTATTGAC TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAC TTCCGCGTTACATAACTTACGGTAA ATGGCCCGCCTGGCTGACCGCCCAACGACCCCCCCCCCATTGACGTCAATAATGAC GTATGTTCCCATAGTAACGCCAATA GGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGG CAGTACATCAAGTGTATCATATGCC AAGTCCGCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCG CAGTACATGACCTTACGGGACTTTC CTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTT TTGGCAGTACACCAATGGGCGTGGA TAGCGGTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGA GTTTGTTTTGGCACCAAAATCAACG GCGGTAGGCGTGTACGGTGGGAGGT <u>CTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGAAGCTTTATTGCG</u> GTAGTTTATCACAGTTAAATTGCTA <u>ACGCAGTCAGTGCTTCTGACACACAGTCTCGAACTTAAGCTGCAGTGACTCTCT</u> TAATTAACTCCACCAGTCTCACTTC **AGTTCCTTTTGCCTCCACCAGTCTCACTTCAGTTCCTTTTGCATGAAGAGCTAGA ATCAAAAGAGGAAACCAACCCCTA** AGATGAGETTTCCATGTAAATTTGTAGCCAGCTTCCTTCTGATTTTCAATGTTTCT TCCAAAGGTGCAGTCTCCAAAGAG **ATTACGAATGCCTTGGAAACCTGGGGTGCCTTGGGTCAGGACATCAACTTGGACA** TTCCTAGTTTTCAAATGAGTGATGA TATTGACGATATAAAATGGGAAAAACTTCAGACAAGAAAAAGATTGCACAATTC AGAAAAGAGAAAGAGACTTTCAAGG AAAAAGATACATATAAGCTATTTAAAAATGGAACTCTGAAAATTAAGCATCTGAA GACCGATGATCAGGATATCTACAAG GTATCAATATGATACAAAAGGAAAAATGTGTTGGAAAAAATATTTGATTTGA AGATTCAAGAGGGGTCTCAAAACC ACTGACCCCGAATTAAACCTGTATC CAGCCTGAGTGCAAAATTCAAGTGC ACAGCAGGGAACAAAGTCAGCAAGGAATCCAGTGTCGAGCCTGTCAGCTGTCCAGAGAAAGGGATCCCAGGTGAGTAGGG CCCGATCCTTCTAGAGTCGAGCTCTCTTAAGGTAGCAAGGTTACAAGACAGGTTT AAGGAGACCAATAGAAACTGGGCTT GTCGAGACAGAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCGG CCGCGAATTCCAAGCTTGAGTATTC TATCGTGTCACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCCTGTGTGA AATTGTTATCCGCTCACAATTCCA CACAACATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCTAATGAGTG **AGCTAACTCACATTAATTGCGTTGCG** CGATGCTTCCAATTTTGTGAGGGTTAATGCTTCGAGAAGACATGATAAGATACATT GATGAGTTTGGACAAACCACAACAAGAATGCAGTGAAAAAAATGCTTTATTTGT-

FIG. 6A.

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GAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAA CAAGTTAACAACAACTTGCATTCATTTTATGTTTCAGGTTCAGGGGGAGATGT GGGAGGTTTTTTAAAGCAAGTAAA CCTCTACAAATGTGGTAAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCGA ATGGACGCGCCCTGTAGCGGCGCAT TAAGCGCGGCGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGC CCTAGCGCCCGCTCCTTTCGCTTTCT TCCCTTCCTTTCTCGCCACGTTCGCCGGCTTTCCCCGTCAAGCTCTAAATCGGGG GCTCCCTTTAGGGTTCCGATTTAGT GCTTTACGGCACCTCGACCCCAAAAACTTGATTAGGGTGATGGTTCACGTAGTG **GGCCATCGCCCTGATAGACGGTTTT** TCGCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACTG TCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTCGGCCTATTGGTTAAAAAAT GAGCTGATTTAACAAAAATTTAAC GCGAATTTTAACAAAATATTAACGCTTACAATTTCGCCTGTGTACCTTCTGAGGC GGAAAGAACCAGCTGTGGAATGTGT CTCAATTAGTCAGCAACCATAGTCCC GCCCCTAACTCCGCCCATCCCGCCCCTAACTCCGCCCAGTTCCGCCCATTCTCCG CCCCATGCTGACTAATTTTTTTA TTTATGCAGAGGCCGAGGCCGCCTCGGCCTCTGAGCTATTCCAGAAGTAGTGAGG AGGCTTTTTTGGAGGCCTAGGCTTT TGCAAAAAGCTTGATTCTTCTTTTTTTCACACACACAGTCTCGAACTTAAGGCTAGAGCCAC CATGATTGAACAAGATGGATTGCAC GCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACAAC AGACAATCGGCTGCTCTGATGCCGC TCCGGTGCCCTGAATGAACTGCAGG ACGAGGCAGCGCGCTATCGTGGCTGGCCACGACGGCCGTTCCTTGCGCAGCTG TGCTCGACGTTGTCACTGAAGCGGGA **AGGGACTGGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCACC** TTGCTCCTGCCGAGAAAGTATCCAT CATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTC GACCACCAAGCGAAACATCGCATCG AGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGACG **AAGAGCATCAGGGGCTCGCGCCAGCC** GAACTGTTCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGTG ACCCATGGCGATGCCTGCTTGCCGAA TATCATGGTGGAAAATGGCCGCTTTTCTGGATTCATCGACTGTGGCCGGCTGGGT GTGGCGGACCGCTATCAGGACATAGCGTTGGCTACCCGTGATATTGCTGAAGAGC TTGGCGGCGAATGGGCTGACCGCTTCCTCGTGCTTTACGGTATCGCCGCT CCCGATTCGCAGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCGG GACTCTGGGGTTCGAAATGACCGAC CAAGCGACGCCAACCTGCCATCACGATGGCCGCAATAAAATATCTTTATTTTCA TTACATCTGTGTGTTTGGTTTTTTGT GTGAAGATCCGCGTATGGTGCACTCTCAGTACAATCTGCTCTGATGCCGCATAGT TAAGCCAGCCCGACACCCGCCAACACCCGCTGACGCGCCCTGACGGGCT-

FIG. 6B.

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TGTCTGCTCCCGGCATCCGCTTACAGACAAGCTGTGACCGTCTCCGGGAGCTGCA TGTGTCAGAGGTTTTCACCGTCATCACCGAAACGCGCGAGACGAAAGGGCCTCGT GATACGCCTATTTTTATAGGTTAAT GTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGC GCGGAACCCCTATTTGTTTATTTTT CTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCTGATAAATGCTT CAATAATATTGAAAAAGGAAGAGTA TGAGTATTCAACATTTCCGTGTCGCCCTTATTCCCTTTTTTGCGGCATTTTGCCTT CCTGTTTTTGCTCACCCAGAAACG CTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTTACATC GAACTGGATCTCAACAGCGGTAAGAT CCTTGAGAGTTTTCGCCCCGAAGAACGTTTTCCAATGATGAGCACTTTTAAAGTT CTGCTATGTGGCGCGGTATTATCCC GTATTGACGCCGGGCAAGAGCAACTCGGTCGCCGCATACACTATTCTCAGAATGA CTTGGTTGAGTACTCACCAGTCACA GAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGCTGCCATAA CCATGAGTGATAACACTGCGGCCAA CTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAAC **ATGGGGGATCATGTAACTCGCCTTG** ATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCA CGATGCCTGTAGCAATGGCAACAACG TTGCGCAAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAA TAGACTGGATGGAGGCGGATAAAGT TCTGGAGCCGGTGAGCGTGGGTCTC GCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTAT ATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATT GGTAACTGTCAGACCAAGTTTACTC ATATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAAGGATCTAGGTGA **AGATCCTTTTTGATAATCTCATGA** CCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAAA **GATCAAAGGATCTTCTTGAGATCCT** ACCAACTCTTTTTCCGAAGGTAACTGGCTTCAGCAGAGCGCAGATACCAAATACT GTCCTTCTAGTGTAGCCGTAGTTAG GCCACCACTTCAAGAACTCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCCT GTTACCAGTGGCTGCCAGTGGCGATAAGTCGTGTCTTACCGGGTTGGACTCA AGACGATAGTTACCGGATAAGGCGCAGCGGTCGGGCTGAACGGGGGGTTC GTGCACACAGCCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACA GCGTGAGCTATGAGAAAGCGCCACGC TTCCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAG GAGAGCGCACGAGGGAGCTTCCAGGG GGAAACGCCTGGTATCTTTATAGTCCTGTCGGGTTTCGCCACCTCTGACTTGAGC GTCGATTTTTGTGATGCTCGTCAGG GGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCTGGC CTTTTGCTGGCCTTTTGCTCACATGG CTCGAC3

FIG. 6C.

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<u>SAGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC</u> AATATTGGCTATTGGCCATTGCAT ACGTTGTATCTATATCATAATATGTACATTTATATTGGCTCATGTCCAATATGACC GCCATGTTGGCATTGATTATTGAC TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAG ATGGCCCGCCTGGCTGACCGCCCAACGACCCCCCCCCATTGACGTCAATAATGACGTATGTTCCCATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAAACTGCCCACTTGG CAGTACATCAAGTGTATCATATGCC AAGTCCGCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCC CAGTACATGACCTTACGGGACTTTC CTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTT TTGGCAGTACACCAATGGGCGTGGA
TAGCGGTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGA
GTTTGTTTTGGCACCAAAATCAACG
GGACTTTCCAAAATGTCGTAACAACTGCGATCGCCCCCCCGTTGACGAAATGG GCGGTAGGCGTGTACGGTGGGAGGT CTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGAAGCTTTATTGCG GTAGTTTATCACAGTTAAATTGCTA ACGCAGTCAGTGCTTCTGACACAGCAGTCTCGAACTTAAGCTGCAGTGACTCTCT TAATTAACTCCACCAGTCTCACTTC AGTTCCTTTTGCCTCCACCAGTCTCACTTCAGTTCCTTTTGCATGAAGAGCTCAGA ATCAAAAGAGGAAACCAACCCCTA AGATGAGCTTTCCATGTAAATTTGTAGCCAGCTTCCTTCTGATTTTCAATGTTTCT TCCAAAGGTGCAGTCTCCAAAGAG ATTACGAATGCCTTGGAAACCTGGGGTGCCTTGGGTCAGGACATCAACTTGGACA TTCCTAGTTTTCAAATGAGTGATGA TATTGACGATATAAAATGGGAAAAAACTTCAGACAAGAAAAAGATTGCACAATTC AGAAAAGAGAAAGAGACTTTCAAGG AAAAAGATACATATAAGCTATTTAAAAATGGAACTCTGAAAATTAAGCATCTGAA GACCGATGATCAGGATATCTACAAG GTATCAATATGATACAAAAGGAAAAAATGTGTTGGAAAAAATATTTGATTTGA AGATTCAAGAGAGGGTCTCAAAACC ACTGACCCCGAATTAAACCTGTATC ACAGCAGGGAACAAAGTCAGCAAGGAATCCAGTGTCGAGCCTGTCAGCTGTCCA GAGAAAGGGATCCACAGGTGAGTAGG GCCCGCTCCTTCTAGAGTCGAGCTCTCTTAAGGTAGCAAGGTTACAAGACAGGTT JAAGGAGACCAATAGAAACTGGGCT TGTCGAGACAGAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCG GCCGCGAATTCCAAGCTTGAGTATT CTATCGTGTCACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCCTGTGTG AAATTGTTATCCGCTCACAATTCC ACACAACATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCTAATGAGT GAGCTAACTCACATTAATTGCGTTGC GCGATGCTTCCATTTTGTGAGGGTTAATGCTTCGAGAAGACATGATAAGATACAT TGATGAGTTTGGACAAACCACAACAAGAATGCAGTGAAAAAAATGC-

FIG. 7A.

TTTATTTGTGAAATTTGTGATG CTATTGCTTTATTGTAACCATTATAAGCTGCAATAA ACAAGTTAACAACAACTTGCATTCATTTTATGTTTCAGGGTTCAGGGGGAGATG TGGGAGGTTTTTTAAAGCAAGTAAA ACCTCTACAAATGTGGTAAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCG **AATGGACGCGCCCTGTAGCGGCGCA** TTAAGCGCGGCGGTGTGGTGGTTACGCGCACGTGACCGCTACACTTGCCAGCGC CCTAGCGCCCGCTCCTTTC TTCCCTTCCTTTCTCGCCACGTTCGCCGGCTTTCCCCGTCAAGCTCTAAATCGGGG GCTCCCTTTAGGGTTCCGATTTAG TGCTTTACGGCACCTCGACCCCAAAAAACTTGATTAGGGTGATGGTTCACGTAGT GGGCCATCGCCCTGATAGACGGTTT TTCGCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACT GGAACAACACTCAACCCTATCTCG GTCTATTCTTTTGATTTATAAGGGATTTTGCCGATTTCGGCCTATTGGTTAAAAAA TGAGCTGATTTAACAAAAATTTAA CGCGAATTTTAACAAATATTAACGCTTACAATTTCGCCTGTGTACCTTCTGAGG CGGAAAGAACCAGCTGTGGAATGTG AGCATGCATCTCAATTAGTCAGCAAC
CAGGTGTGGAAAGTCCCCAGGCAGCAGGCAGAAGTATGCAAAGCATGCA
TCTCAATTAGTCAGCAACCATAGTCC
CGCCCCTAACTCCGCCCATCCCGCCCCTAACTCCGCCCATTCTCC GCCCCATGGCTGACTAATTTTTTTT
ATTTATGCATGAGGCCGAGGCCGCCTCGGCCTCTGAGCTATTCCAGAAGTAGTGAG
GAGGCTTTTTTGGAGGCCTAGGCTT TTGCAAAAAGCTTGATTCTTCTGACACAACAGTCTCGAACTTAAGGCTAGAGCCA CCATGATTGAACAAGATGGATTGCA CGCAGGTTCTCCGGCCGCTTGGGTGGAGAGGCTATTCGGCTATGACTGGGCACAA GACGAGGCAGCGCGCTATCGTGGCTGGCCACGACGGGCGTTCCTTGCGCAGCT GTGCTCGACGTTGTCACTGAAGCGGG AAGGGACTGGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCATCTCAC CTTGCTCCTGCCGAGAAGTATCCA **ICATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATT** CGACCACCAAGCGAAACATCGCATC
GAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGAC
GAAGAGCATCAGGGGCTCGCGCCAGC CGAACTGTTCGCCAGGCTCAAGGCGCGCATGCCCGACGGCGAGGATCTCGTCGT GAECCATGGCGATGCCTGCTTGCCGA ATATCATGGTGGAAAATGGCCGCTTTTCTGGATTCATCGATGTGGCCGGCTGGG TGTGGCGGACEGCTATCAGGACATA GCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCT TCCTCGTGCTTTACGGTATCTCCGCCTTCTGACGGCCGCCTCCTCGCGCATCGCCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCCGGGCTCTCTGGGGGTTCTTCTGAGCCGGGCTCTTGGGGGTTCTTCTGAGCCGGGCCTCTTGGGGGTTCTTCTGAGCCGGGGCTCTTGGGGGTTCTTCTGAGCCGGGGCTCTTGGGGGTTCTTCTGAGCCGA CCAAGCGACGCCCAACCTGCCATCACGATGGCCGCAATAAAATATCTTTATTTTC ATTACATCTGTGTTGTTTTTTTGTGTGAAGATCCGCGTATGGTGCACTCTC-

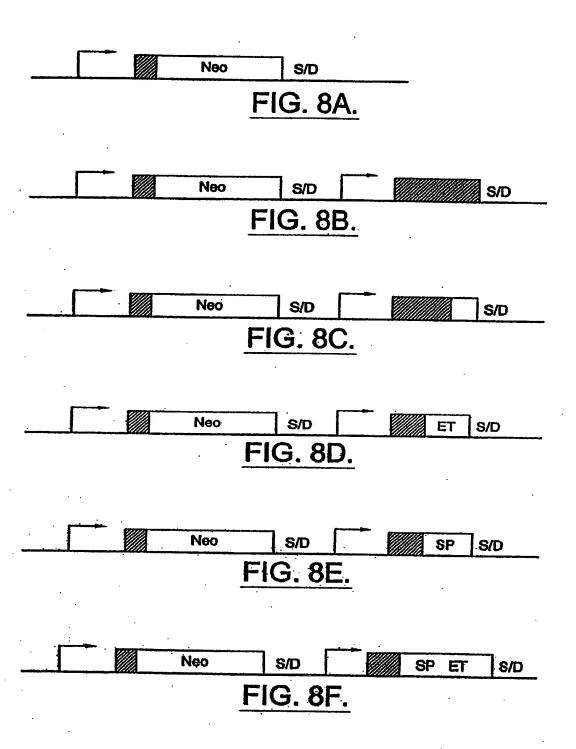
FIG. 7B.

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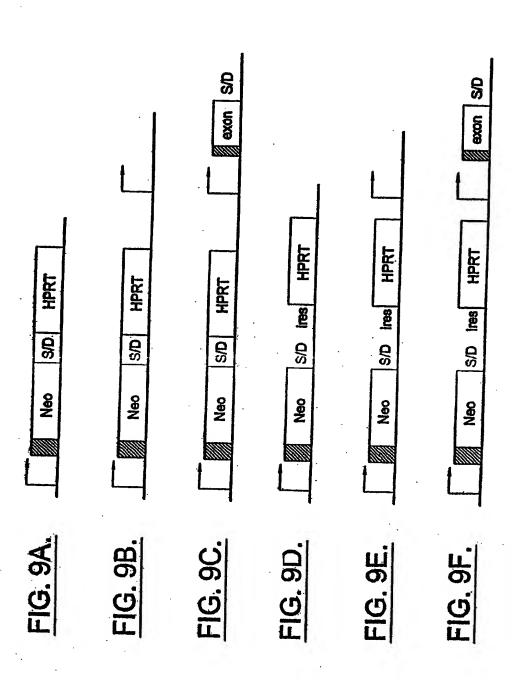
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ACTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAA
CATGGGGGATCATGTAACTCGCCTT GTTGCGCAAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTA
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ATCTGGAGCCGGTGAGCGTGGTCT
CGCGGTATCATTGCAGCACTGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTA TCTACACGACGGGGAGTCAGGCAAC TATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCAT TGGTAACTGTCAGACCAAGTTTACT CATATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAAGGATCTAGGTG AAGATCCTTTTTGATAATCTCATG ACCAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTCAGACCCCGTAGAAA AGATCAAAGGATCTTCTTGAGATCC TTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAAAAAAACCACCGCTACCAGCG GTGGTTTGTTTGCCGGATCAAGAGC TACCAACTCTTTTTCCGAAGGTAACTGGCTTCAGCAGAGCGCAGATACCAAATAC TGTCCTTCTAGTGTAGCCGTAGTTA
GGCCACCACCTTCAGGAACTCTGTAGCACCGCCTACATACCTCGCTCTGCTAATCC
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FIG. 7C.

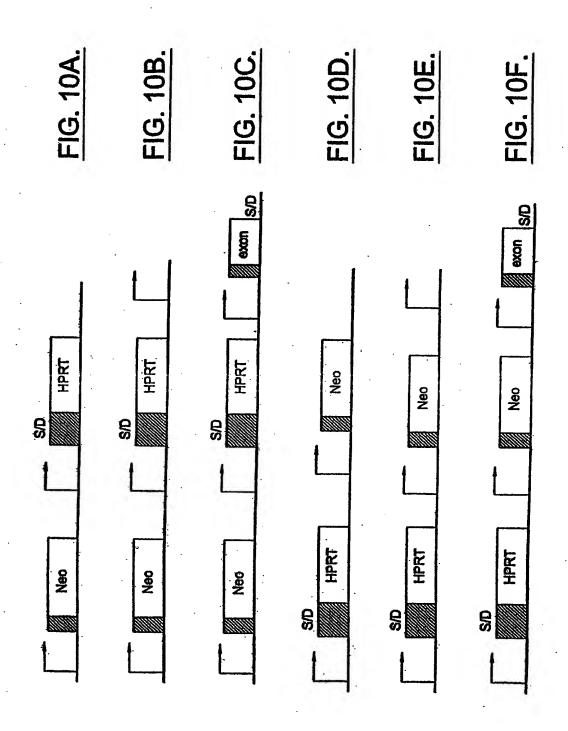
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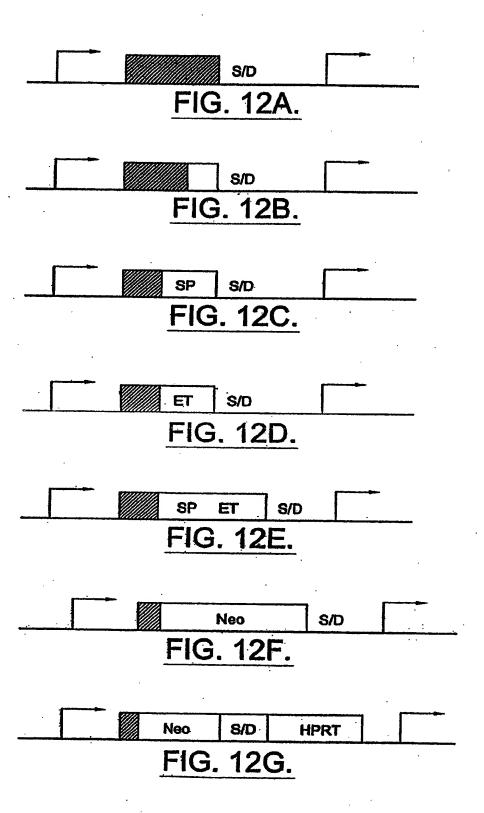
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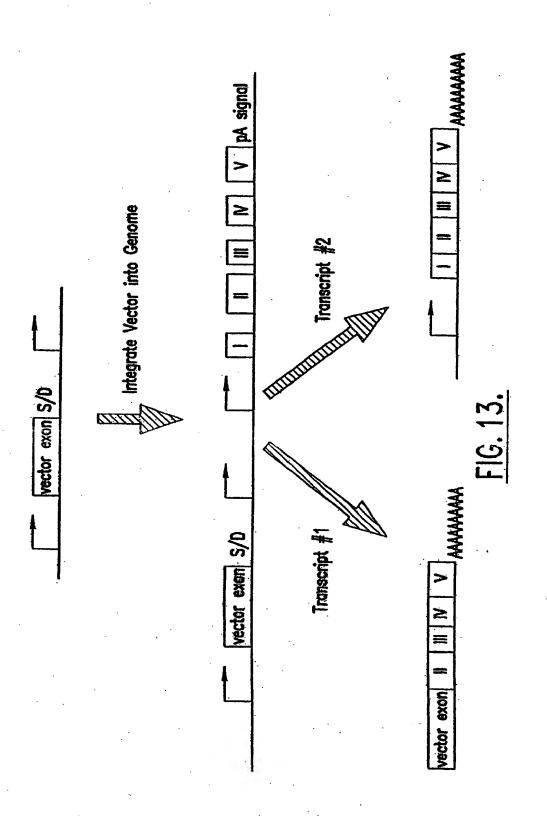


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S/D	·				S/D	FIG.	11A.
S/D	<u>·</u>	7 -	·	Neo	pΑ		
			FIC	3. 11		<u> </u>	S/D
			1 10	J. 1 ()	<u>.</u>		
S/D		Neo			Neo		S/D
			FIG	. 110	C.		

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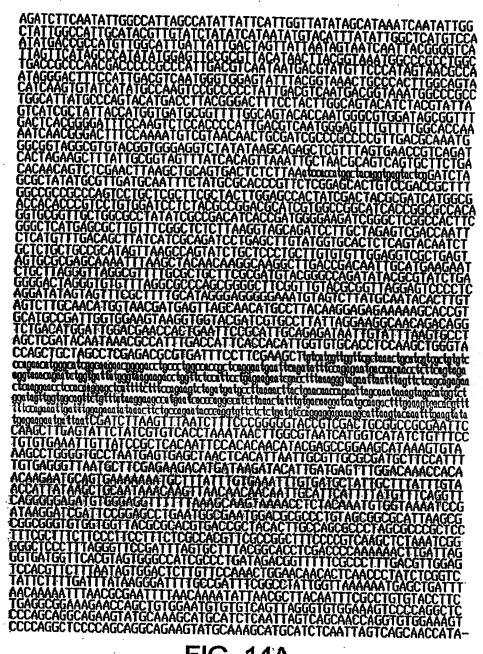


FIG. 14A.

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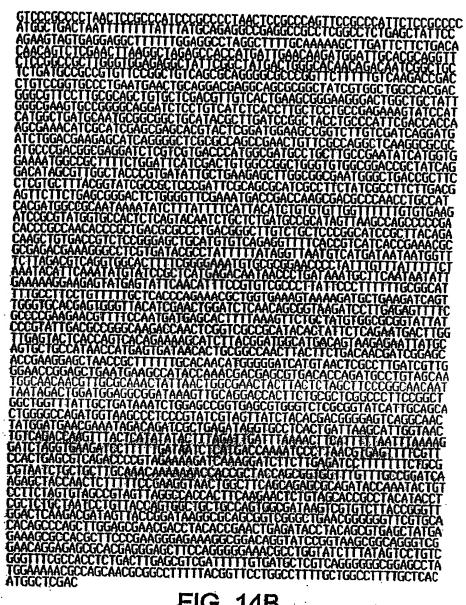


FIG. 14B.

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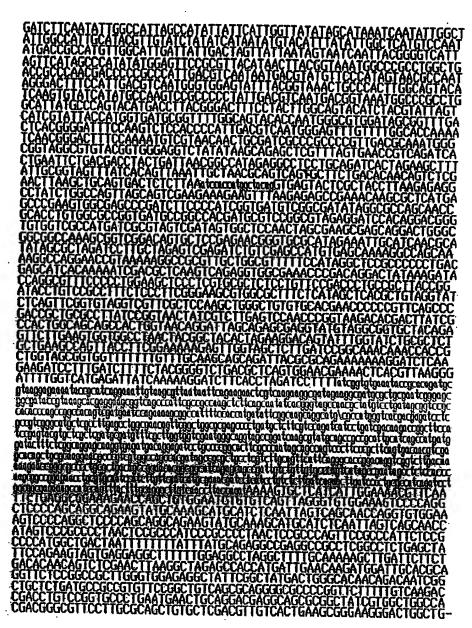


FIG. 15A

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FIG. 15B.

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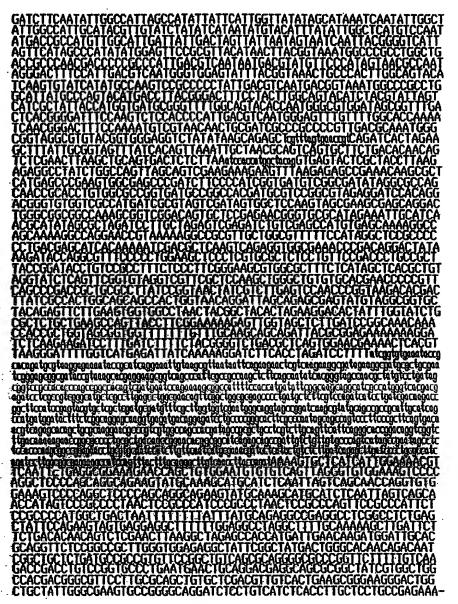
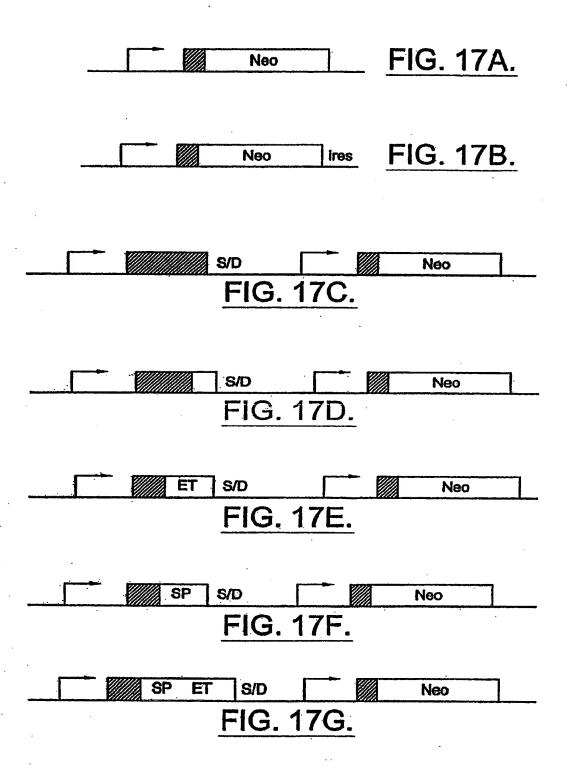


FIG. 16A.

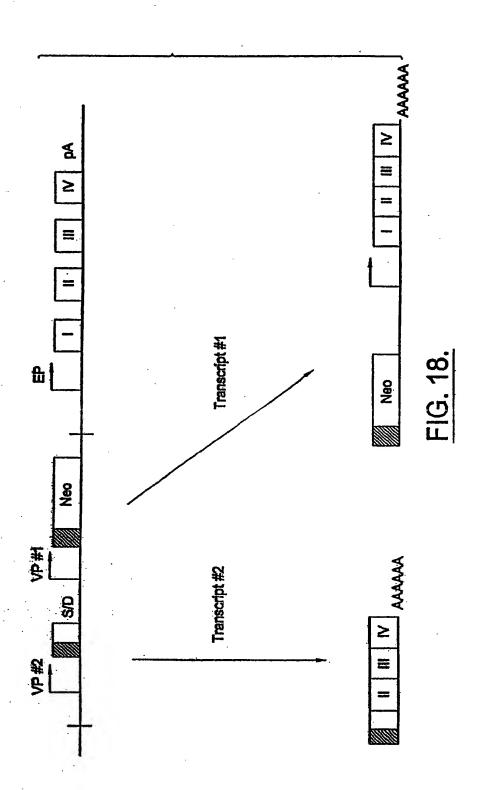
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FIG. 16B.

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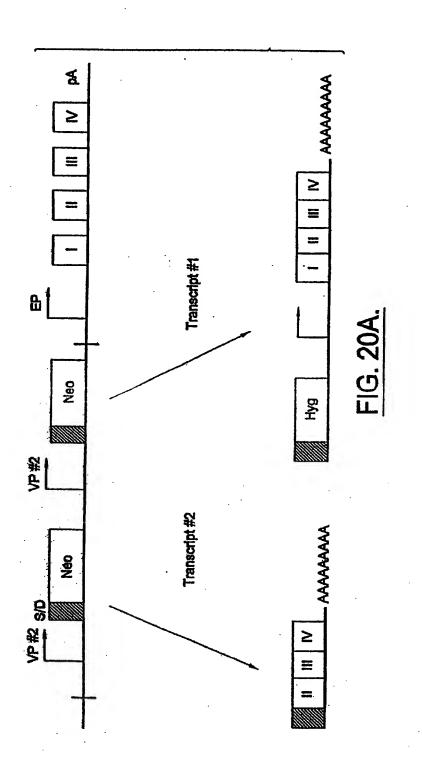


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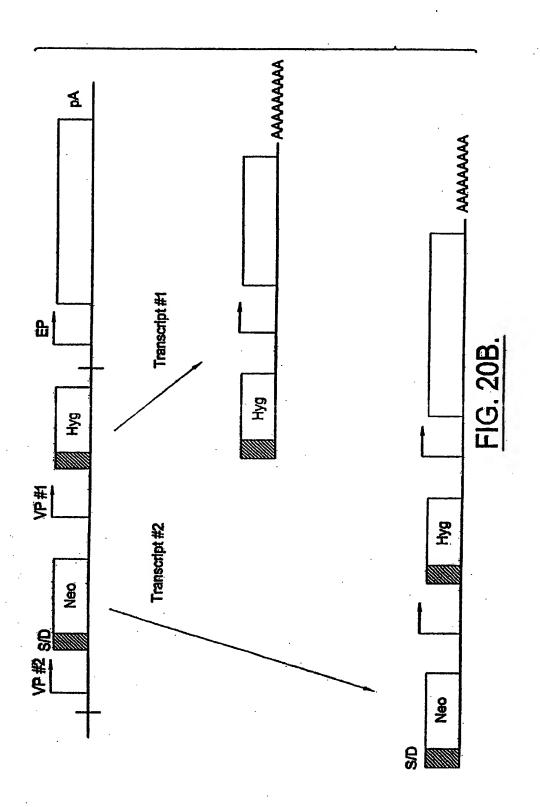


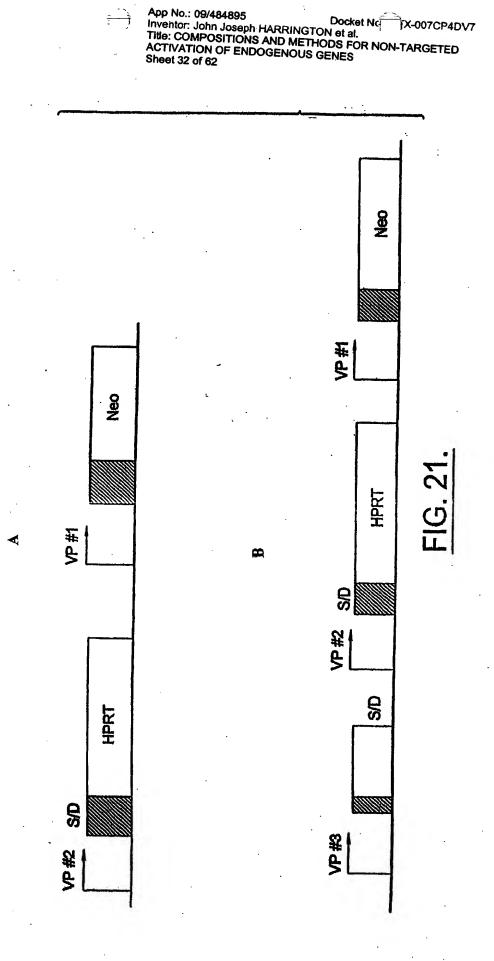
FIG. 19.

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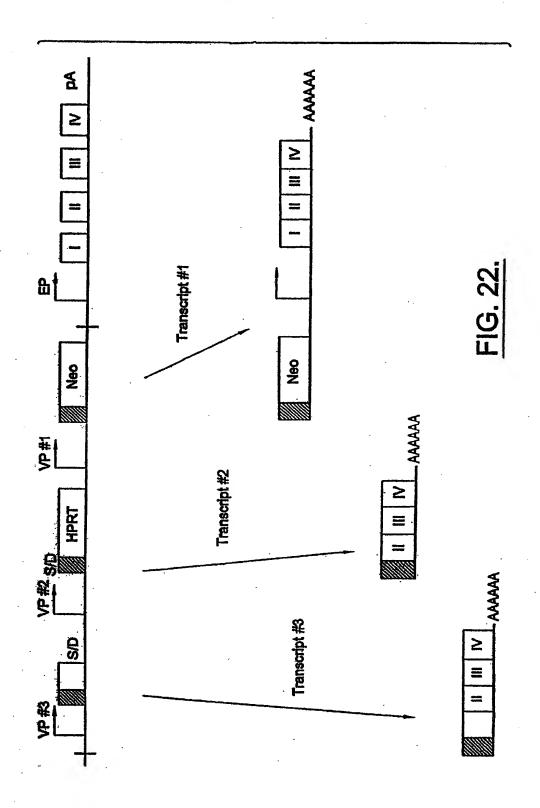


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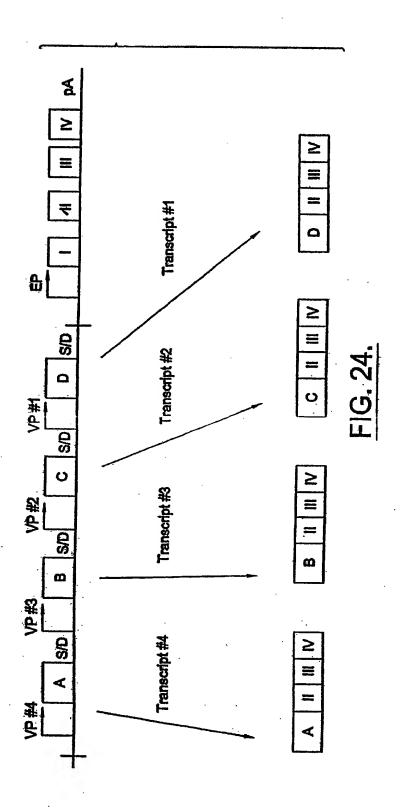
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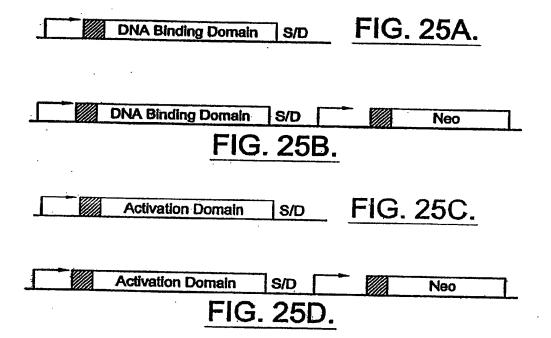
	511TD			FIG. 23A.	Vector intron Vector intron	8 0 0 0	Exon A and Flanking Intron
			5' UTR ACCATGCAGGTGATG 5' UTR ACCATGGCAGGTGATG	5' UTR ACCATGCAGGTGATG 5' UTR ACCATGGCAGGTGATG		FIG. 23C.	·
FIG. 23C.	FIG. 23C.	FIG. 23C.	5'UTR ACCATECAGETGATG FIG. 23B.	5' UTR ACCATECAGGTGATE FIG. 23B.	Vector intron	ļ	lanking Intron
FIG. 23C.	FIG. 23C.	FIG. 23C.	5' UTR ACCATECAGETGATE FIG. 23B.	5' UTR ACCATECAGETGATE FIG. 23B.			
5' UTR АССАТЕВСАВ БЕЛЕТВ БЕЛЕТ В ТОТИ В ТОТ	5' UTR ACCATGGCAGGTGATG FIG. 23C.	5'UTR ACCATGGCAGGTGATG FIG. 23C.	5' UTR ACCATGCAGGTGATG	5' UTR ACCATGCAGGTGATG		FIG. 23B.	
FIG. 23B. 5' UTR ACCATGGCAGGTGATG FIG. 23C.	FIG. 23B. 5' UTR ACCATGGCAGGTGATG FIG. 23C.	FIG. 23B. 5' UTR ACCATGGCAGGTGATG FIG. 23C.			Vector intron		anking Intron
FIG. 23A. FIG. 23B. FIG. 23B. FIG. 23C.	FIG. 23A. FIG. 23B. F'UTR ACCATGGGTGATG F'UTR ACCATGGCAGGTGATG FIG. 23C.	FIG. 23A. 5' UTR ACCATECAGETEATE 5' UTR ACCATEGCAGETEATE FIG. 23C.	FIG. 23A.		Vector Intron		lanking intron
FIG. 23A. FIG. 23A. FIG. 23B. FIG. 23B. FIG. 23C.	FIG. 23A. FIG. 23A. FIG. 23B. FIG. 23B. FIG. 23C.	FIG. 23A. FIG. 23A. FIG. 23B. 5' UTR ACCATGCAGGTGATG FIG. 23C.	5' UTR ACCCAGGTGATG FIG. 23A.	5' UTR ACCCAGGTGATG			
FIG. 23A. FIG. 23A. FIG. 23B. FIG. 23B. FIG. 23C.	FIG. 23A. FIG. 23A. FIG. 23B. FIG. 23B. FIG. 23C.	FIG. 23A. FIG. 23A. FIG. 23B. FIG. 23C.	5' UTR ACCCAGGTGATG FIG. 23A.	5' UTR ACCCAGSTGATG		S/D C	
SPD B SPD C SPD SPD SPD B SPD	SPD SPD C SPD STORM ACCAGGTGATG FIG. 23A. FIG. 23B. FIG. 23B. FIG. 23C.	S'D S'D C S'D S'UTR ACCATGGTGATG FIG. 23A. FIG. 23B. FIG. 23C.	S/D B S/D C S/D S' UTR ACCCAGGTGATG FIG. 23A.	S/D B S/D C S/D S/UTR ACCCAGGTGATG			

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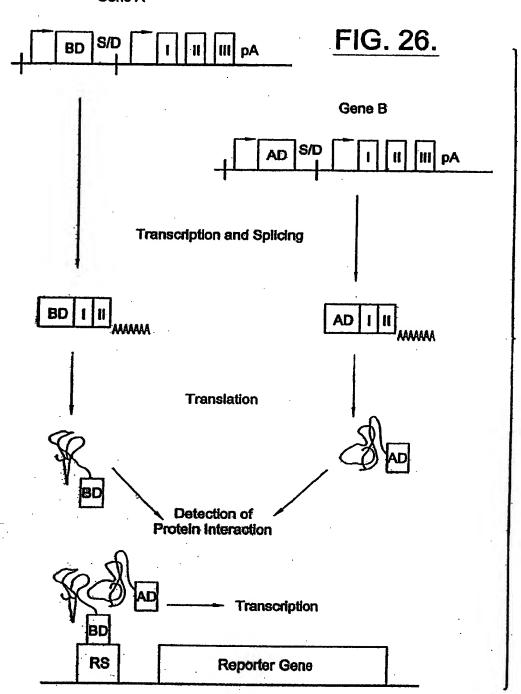
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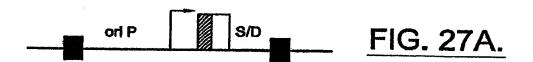
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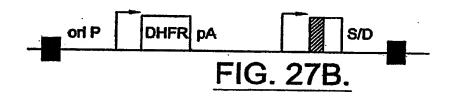


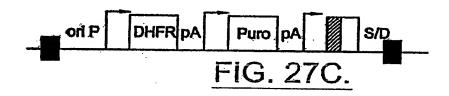
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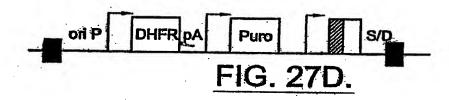
Inventor: John Joseph HARRINGTON et al. (1)

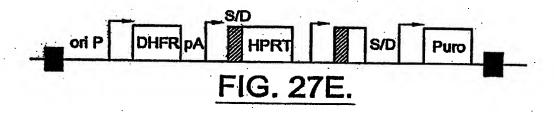
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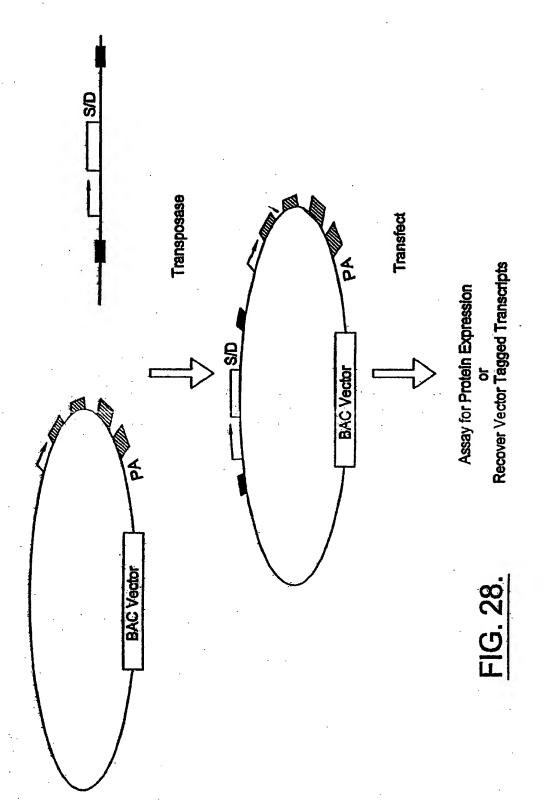








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CACCTAAATTGTAAGCGTTAATATTTTGTTAAAATTCGCGTTAAATTTTTGT TAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAAAATCCCTTAT **AAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTTGTTCCAGTTTGGAA** CAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAGGGCGAAAAA CCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCCTAATCAAGTT TTTTGGGGTCGAGGTGCCGTAAAGCACTAAATCGGAACCCTAAAGGGAGC CCCCGATTTAGAGCTTGACGGGGAAAGCCGGCGAACGTGGCGAGAAAGGA AGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGCTGGCAAGTGTAGCG GTCACGCTGCGCTAACCACCACCCGCGCGCTTAATGCGCCGCTACAG GGCGCGTCCCATTCGCCATTCAGGCTGCGCAACTGTTGGGAAGGGCGATC GGTGCGGGCCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGGGATGTGCTG CAAGGCGATTAAGTTGGGTAACGCCAGGGTTTTCCCAGTCACGACGTTGTA AAACGACGGCCAGTGAATTGTAATACGACTCACTATAGGGCGAATTGGGT A Caatt caatt cgtcgacctcgaaatt ctaccgggtaggggaggcgcttttcccaaggcagtctggagcatgcgctttagcagecerge typgeact type getacaeaag type et type et en each et terre et type et en e gyet eeg t te t typg type eec t tegegeeae et te tac te et eec et ag teaggaag t te eec ee en et en en en en en tegtgeaggacgtgacaaatggaatagcacgteteactagtetegtgeagatggacaagcacegetgagcaatggage gggtaggcctttggggcagcggccaatagcagctttgctccttcgctttctgggctcagaggctggnaaggggtgggtcc 99999cpggctcagggctcagggctcagggcgggcgggcgggcggccggaaggtcctccggaggcccggcattctgcacg cttaaaaggggacgicigcggggtgticicciciticcicatctcagggctittcgacctgcatccatctagatctcgagca gctgaaget taceatgaecgag tacaageccaegg tgegee tegeeaccegegaegaeg tececegggeeg tacgeae Od popular de la constitución de gttcccggctggccgcagcagcagcagcagggcaagggcaccgcaccgggcccaaggggccgtcgtggttcctt cggccgagcgcgcgcgcgggtgcccgccttcctggagacctccgcgccccgcaacctccccttctacgagcggctcggctt ATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAAT ATGTACATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGA TTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGC CCATATATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGC TGACCGCCCAACGACCCCCGCCCATTGACGTCAATAATGACGTATGTTCCC ATAGTAACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTA CGGTAAACTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCG **CCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAG** TACATGACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTC ATCGCTATTACCATGGTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGA TAGCGGTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAAT GGGAGTTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAAC AACTGCGATCGCCCGCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGG TGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGA TCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCTtaattaaccaccgctac aggitagetectogGATCTGCTACCTTAAgagaggcctatctggccagttagcagtcgaagaagaagttfaa GAGAGCCGAAACAAGCGCTCATGAGCCCGAAGTGGCGAGCCCGATCTTCC CCATCGGTGATGTCGGCGATATAGGCGCCAGCAGCACCGCACCTGTGGCGCC-

FIG. 29A.

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GGTGATGCCGGCCACGATGCGTCCGGCGTAGAGGATCCACAGGACGGGTG TGGTCGCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCGAGC AGGACTGGGCGGCCAAAGCGGTCGGACAGTGCTCCGAGAACGGGTGC GCATAGAAATTGCATCAACGCATATAGCGCTAGATCCTTGCTAGAGTCGAG GCCGCCACCGCGTGGAGCTCCAGCTTTTGTTCCCTTTAGTGAGGGTTAAT TTCGAGCTTGGCGTAATCATGGTCATAGCTGTTTCCTGTGGTGAAATTGTTA TCCGCTCACAATTCCACAACATACGAGCCGGAAGCATAAAGTGTAAAG CCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCAC TGCCCGCTTTCCAGTCGGGAAACCTGTCGTGCCAGCTGCATTAATGAATCC GCCAACGCGCGGGAGAGGCGGTTTGCGTATTGGGCGCTCTTCCGCTTCCT CGCTCACTGACTCGCTGCGCTCGGTCGTTCGGCTGCGGCGAGCGGTATCAG CTCACTCAAAGGCGGTAATACGGTTATCCACAGAATCAGGGGATAACGCA GGAAAGAACATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAA AGGCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATC ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAA AGATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCG ACCCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTG GCGCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTT CGCTCCAAGCTGGGCTGTGCACGAACCCCCCGTTCAGCCCGACCGCTGC GCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTA TCGCCACTGGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGT AGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAG AAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAA AAGAGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTG GTTTTTTTTTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAG **AAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACT** CACGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGA TCCTTTTAAATTAAAAATGAAGTTTTAAATCAATCTAAAGTATATATGAGT **AAACTTGGTCTGACAGTTACCAATGCTTAATCAGTGAGGCACCTATCTCAG** CGATCTGTCTATTTCGTTCATCCATAGTTGCCTGACTCCCCGTCGTGTAGAT AACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGCTGCAATGATACC GTCTATTAATTGTTGCCGGGAAGCTAGAGTAAGTAGTTCGCCAGTTAATAG TTTGCGCAACGTTGTTGCCATTGCTACAGGCATCGTGGTGTCACGCTCGTC GTTTGGTATGGCTTCATTCAGCTCCGGTTCCCAACGATCAAGGCGAGTTAC **ATGATCCCCCATGTTGTGCAAAAAAGCGGTTAGCTCCTTCGGTCCTCCGAT** CGTTGTCAGAAGTAAGTTGGCCGCAGTGTTATCACTCATGGTTATGGCAGC ACTGCATAATTCTCTTACTGTCATGCCATCCGTAAGATGCTTTTCTGTGACT **GGTGAGTACTCAACCAAGTCATTCTGAGAATAGTGTATGCGGCGACCGAG** TTGCTCTTGCCCGGCGTCAATACGGGATAATACCGCGCCACATAGCAGAAC TTTAAAAGTGCTCATCATTGGAAAACGTTCTTCGGGGGGGAAAACTCTCAAG GATCTTACCGCTGTTGAGATCCAGTTCGATGTAACCCACTCGTGCACCCAA CTGATCTTCAGCATCTTTTACTTTCACCAGCGTTTCTGGGTGAGCAAAAAC AGGAAGGCAAAATGCCGCAAAAAAGGGAATAAGGGCGACACGGAAATGT TGAATACTCATACTCTTTCTTTTCAATATTATTGAAGCATTTATCAGGGTT TAGGGGTTCCGCGCACATTTCCCCGAAAAGTGC

FIG. 29B.

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCG CCCAACGACCCCCCCCCATTGACGTCAATAATGACGTATGTTCCCATAGTA ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA **ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCT** ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATG ACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT ATTACCATGGTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGATAGCG GTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAG TTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG CGATCGCCCGCCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGA GGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTGAATTCTG ACGACCTACTGATTAACGGCCATAGAGGCCTCCTGCAGAACTGTCTTAGTG ACAACTATCGATTTCCACACATTATACGAGCCGATGTTAATTGTCAACAGC TCATGCATGACGTCCCGGGAGCAGACAAGCCCGACCATGGCTCGAGTAAT coatgagttagcaacatoccttacaaggagagaaaaagcaccytocatoccoattogtogaagtaaggtggtacgatcyt gccttattaggaaggcaacagacaggtctgacatggattggacgaaccactgaattccgcattgcagagataattgtattta agtgcctagctcgatacaataaacgccatttgaccattcaccacattggtgtgcacctccaagctgggtaccagctgctagc agaaggtaaacagaatctggtgaftatgggtaagaagacctggtteteentteetgagaagaatcgacetttaaagggtaga atancomggaatattiaactattiytgaaaggataatgaagaattigaagtgaaaggaattittaagaaattigattiga agaaatataaacttctgocogaataccaggtgttctctctgatgtcaaggaggagaaaggcattaagtacaaattigaagt atatgaggagaatgTTAATTAAgggaaccaataactgccttaaaaaaattacgcccagccctgccactcatcocagt actyftigtaatteattaageattetgeegacatggaageentercagaeggeotgafgaacetgaategeengeggeatea geneettytegeettgegtataatatttgeeentygtgannaeggggggaggangttyteentattggeencyttinaaten naactgytganaeteneeegggattggefgagneegannaeniatieteentunaeeeetttaggganninggeengytttt caccytoacecyccacatcttycynatatatytytuynaactyccygnaatcytcytyytattcactccagaycynigana acgtttcagtttgctcatggaaaacggtgtaacaagggtgaacactatccagctcaccgtctttcattgccata cagaatteeggatgageatteateaggegggeaagaatgtgaataaaggeeggataaaaettgtgettattttlettleeggt ctitiaaanangecytaatateengetgaacygtetgyttatagytaeattyngeaectpaetpaentyeetenaaatyttetit acyatyeenttygyatatatenacygtygtatateengtyattittiteteentittingeteettingeteetynanatetynata actemaanataeyeegytynytyntettatitenttatygtynanyttyynaectettaeytyeeyntenacyteteatittey ccaseTTAATTAÄGGCGCGCCgctctcctggctaggagtcacgtagaaaggactaccgacgaaggaactt gogtcgccggtgtgttcgtatatggaggtagtaagacctccctttacaacctaaggcgagaactgcccttgctattccaca atgtcgtcttacaccattgagtcgtctcccctttggaatggcccctggacccggccacaacctggcccgctaaggggagtc cattgictgttatticatggicttittiacaaactcatatatttgctgaggitttgaaggatgcgattaaggaccttgitatgacaa-

FIG. 30A.

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gitattacaccctiattitacagiccaaaccgcaggacgcgitagiggcagcitacaccattccacaatticaaa
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gitagagitagccactigitciitigittatgagacccattggcgitagagaccagittaattiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitgiticaccitagattitatiticaccitgiticaccitagattitatiticaccitagiticaccitagattitatiticaccitagiticaccitagattitatiticaccitagiticaccitagattitatiticaccitagiticaccitagattitatiticaccitagiticaccitagattitatiticaccitagiticacci agaatgaagaagcaggcgaagattcaggagagttcactgcccgctcctgatcttcagccactgcccttatgactaaaatg gitcactaccc tegiggaatec tracecca ta tacaataaaacca tracea tagaata tagaata tagaata tege ta tteecta tagaacct ta tagaata t a tactactaccegggaagca tatgctacccgtttagggttaacaagggggccttataaacactattgctaatgccctcttgag ggtccgcttatcggtagctacacaggcccctctgattgacgttggtgtagcctcccgtagtcttcctgggcccctgggaggt GGGCGGCGAAAGCGGTCGGACAGTGCTCCGAGAACGGGTGCGCATA GAAATTGCATCAACGCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCTG TCGAGCCATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGG CCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACA AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGA TACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACC CTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCG CTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCGCT CCAAGCTGGGCTGTGCACGAACCCCCGTTCAGCCCGACCGCTGCGCCT TATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGC CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC GGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAG GACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAG AGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTT-

FIG. 30B.

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TTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAGAA GATCCTTTGATCTTTCTACGGGGTCTGACGCTCAGTGGAACGAAACTCA CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATC CTTTTATCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAATACCGCAT CAGGAAATTGTAAGCGTTAATAATTCAGAAGAACTCGTCAAGAAGGCGAT AGAAGGCGATGCGCTGCGAATCGGGAGCGGCGATACCGTAAAGCACGAGG AAGCGGTCAGCCCATTCGCCGCCAAGCTCTTCAGCAATATCACGGGTAGCCC AACGCTATGTCCTGATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATG **AATCCAGAAAAGCGGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCG** CCATGGGTCACGACGAGATCCTCGCCGTCGGGCATGCTCGCCTTGAGCCTG GCGAACAGTTCGGCTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCC TTCGCTTGGTGGTCGAATGGGCAGGTAGCCGGATCAAGCGTATGCAGCCG CCGCATTGCATCAGCCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAG ATGACAGGAGATCCTGCCCGGCACTTCGCCCAATAGCAGCCAGTCCCTTC CCGCTTCAGTGACAACGTCGAGCACAGCTGCGCAAGGAACGCCCGTCGTG GACAGGTCGGTCTTGACAAAAAGAACCGGGCGCCCCTGCGCTGACAGCCG GAACACGGCGCATCAGAGCAGCCGATTGTCTGTTGTGCCCAGTCATAGCC GAATAGCCTCTCCACCCAAGCGGCCGGAGAACCTGCGTGCAATCCATCTTG TTCAATCATGCGAAACGATCCTCATCCTGTCTCTTGATCAGAGCTTGATCC CCTGCGCCATCAGATCCTTGGCGGCGAGAAAGCCATCCAGTTTACTTTGCA GGGCTTGTCAACCTTACCAGATAAAAGTGCTCATCATTGGAAAAcattcaattcgt conceteganattetacegggtaggggggcgctttteceanggengtetggngcatgegetttagengeeegctgggc acttpgcgctacacaagtggcctctggcctcgcacacattccacatccaccggtaggcgccaaccggctccgttctttggt ggccccttcgcgccaccttctactcctccctagtcaggaagttccccccgccccgcanctcgcgtcgtgcaggacgtg acaaa togaaa tagcaco teteactag teteg to caga toga caagea cege to og caa toga of cogo tagge et titogo gcagcagccaatagcagctttgctccttcgctttctgggctcagaggctggnaagggtggggtccgggggcgggctcag ccijan ta can gecen engat gene et en central para en con control para la contr ccipactaccccgccacacacccgtcgacccggaccgccacatcgagcgggtcaccggagctgcaagaactcttcct cacecegesteggetegacateggeaggtgtgggtegeggacgacggeggegegggtggggtetggaccacgecg Dan the control of th gtcgaggtgcccgaaggaccgcgcacctggtgcatgacccgcaagcccggtgcctgacgcccacgacccgca pegecegacegaaaggagegeacegacececatgeategacactgggcactgggtaagtatcaaggtageGGCCGC GGGGAGCCTGGGGACTTTCCACACCCTAACTGACACACATTCCACAGCTGG TTCTTTCCGCCTCAGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTT GTTAAAATTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAG GCCGAAATCGGCAAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGG GTTGAGTGTTGTTCCAGTTTGGAACAAGAGTCCACTATTAAAGAACGTGGA CTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCAC

FIG. 30C.

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GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA TCAAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG <u>ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT</u> ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATG ACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT ATTACCATGGTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGATAGCG **GTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAG** TTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG CGATCGCCCGCCCGTTGACGCAAATGGGCGTAGGCGTGTACGGTGGGA GGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTGAATTCTG ACGACCTACTGATTAACGGCCATAGAGGCCTCCTGCAGAACTGTCTTAGTG ACAACTATCGATTTCCACACATTATACGAGCCGATGTTAATTGTCAACAGC TCATGCATGACGTCCCGGGAGCAGACAAGCCCGACCATGGCTCGAGTAAT ACGACTCACTATAGGGCGACAGGTGAGTACTCGCTACCTTAAggcctatctggccg
tttaaacagatgtgtataagagacagctctcttaaGGTAGCCTGTCTCTTATACACATCTagatccttg ctagagtegaccaatteteatgtttgacagettateategeagateetgagettgtatggtggtagtegegagacaatttaageta enacaaggeaaggettgaccaatteteetgeteetgettgtgtgtgttggaggttgtggtggtggtagtegegagacaaatttaageta enacaaggeaaggettgaccgacaattgeatgaagaatetgettagggttaggegtttgegegagacaaatttaagega enagatatacgegtatetgaggggactagggtggttttaggegeccageggggetteggttgtaegeggttaggegttaggagteee eteaggatatagtagtttegettttgcatagggaggggaaatgtagtettatgeaatacaettgtagtetttgcaccatggtag cgotgapttagcaacatgccttacaaggagagaaaaagcaccgtgcatgccgattagtggaagtaaggtggtacgatcgt attaatttagtictcagcagogaactcaaggaacctccacaaggagctcatttictticcagaagtctagatgatgcttaaa cttactgaaccaaccagaattagcaaataagtagacatggictggatagttggtggcagttictgtttataaggaagccatga atcacccaggccatcttaaactatttgtgacaaggatcatgcaagactttgaaagtgacacgttttttccagaaattgatttgg agaaatataaacttctgccagaatacccaggtgttctctctgatgtccaggaggagaaaggcattaagtacaaatttgaagt atatgagaagaatgTTAATTAAggcaccaataactgccttaaaaaattacgcccgcctgcactcatcgcagt actgttgtaattcattaagcattctgccgcggactggaagccatcacagacggcatgatgaacctgaatcgccagcggcatca gcaccttgtcgccttgcgtataatatttgcccatggtgaaaacgggggggagaagatgtccatattggccacgtttaaatca aaactggtgaaactcacccagggattggctgagacgaaaacatattctcaattaaccctttagggaaataggccaggtttt cacytaacacgccacatcttgcgaatatatgtytagaaactgccggaaatcgtcgtggtattcactccagagggaigaaa contraces person a terrage parata to transproperation and the contrace person at the contrace person at the contrace person and the contract person an

FIG. 31A.

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gtggagtccgctgctgctgccactctctttccccttgttacaaatagagtgtaacaacaaggttcacctgcttggtccc
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acatcagctttaccactatattccacccagtatcatattgcactagattattttattattacaaatagccataaattcgtgttgagatgg acatecraftettiacogettigtececracecetgeattictattgffaangataftengnatgttientteetreeetaginfftaff gccceeggggtttytgegggttatatttggtgtcatagcacaatgccaccactgaaccccccgtccaaattttattctggggg entencelipassacettattitepsycacetencetsacettactyttenessetengengttattetattogetassegning agant gang ang cang crown a transpagning tract george text type to transpagning a transpagning a transpagning a transpagning at transpagning a transpagning gttoctaccticytygoatcctgacccciqtataataaaccytyacayctcatygogygogyatatcyctyttccttag
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atyccctycagatyaagccactcagtytygcacatygtygcaagtygcaagtytaccacaactyaaggattaact
atyccctycagatyaaagccactcagtytygcacatygggacagtygcaagtytaccacaactyaaggattaat
atyccctycoccyaatacaaacaaaaccacaagcyctcctcytaccagcyaagaagggcaagatyccycyaagtagggatttagtt
cytccggcygcygcggCGGCCGCAAGGCGCCCGGATCCACAGGACGGGTGTGGTC
GCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCGAGCAGGAC
TGGGCGGGCGCAAAGCGGTCGGTCGGACAGTGCTCCGAGAACGGGTGCGCATA TGGGCGGCGGCCAAAGCGGTCGGACAGTGCTCCGAGAACGGGTGCGCATA GAAATTGCATCAACGCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCTG TCGAGCCATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGG CCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACA AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGA TACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACC CTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCG CTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCGCT CCAAGCTGGGCTGTGTGCACGAACCCCCGTTCAGCCCGACCGCTGCGCCT TATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGC CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC GGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAG GACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAG TTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTT-

FIG. 31B.

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TTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAGAA TATECTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCA CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATC CTTTTATCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAATACCGCAT CAGGAAATTGTAAGCGTTAATAATTCAGAAGAACTCGTCAAGAAGGCGAT AGAAGGCGATGCGCTGCGAATCGGGAGCGGCGATACCGTAAAGCACGAGG AAGCGGTCAGCCCATTCGCCGCCAAGCTCTTCAGCAATATCACGGGTAGCC AACGCTATGTCCTGATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATG **AATCCAGAAAAGCGGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCG** CCATGGGTCACGACGAGATCCTCGCCGTCGGGCATGCTCGCCTTGAGCCTG GCGAACAGTTCGGCTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCC TTCGCTTGGTGGTCGAATGGGCAGGTAGCCGGATCAAGCGTATGCAGCCG CCGCATGCATCAGCCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAG ATGACAGGAGATCCTGCCCGGCACTTCGCCCAATAGCAGCCAGTCCCTTC CCGCTTCAGTGACAACGTCGAGCACAGCTGCGCAAGGAACGCCCGTCGTG GACAGGTCGGTCTTGACAAAAAGAACCGGGCGCCCCTGCGCTGACAGCCG GAACACGGCGGCATCAGAGCAGCCGATTGTCTGTTGTGCCCAGTCATAGCC GAATAGCCTCTCCACCCAAGCGGCCGGAGAACCTGCGTGCAATCCATCTTG TTCAATCATGCGAAACGATCCTCATCCTGTCTCTTGATCAGAGCTTGATCC CCTGCGCCATCAGATCCTTGGCGGCGAGAAAGCCATCCAGTTTACTTTGCA GGGCTTGTCAACCTTACCAGATAAAAGTGCTCATCATTGGAAAAcattcaattcat acttpgcgctacacaagtggcctctggcctcgcacacattccacatccaccggtaggcgccaaccggctccgttctttggt acaaatggaaatagcacytetcactagtetegtgeagatggacaagcacegetgageaatggagegggtaggeetttggg gcagcggccaatagcagctttgctccttcgctttctgggctcagaggctggnaaggggtgggtccggggctcag ccgagtacaageccacggtgegectegecaccegegacgaegtececcgggecgtaegeacectegecgegegtteg ccinctaccccacacacacacacccategacccggaccacacategagegagetcaccgagetgcaagaactettcct congregategoge tegoes tegoes against toge toge tegoes and the conference of the conf Der de production de la facto de la faction de la facto de la fact 999tgcccyccttcctggagacctccgcgccccgcaacctccccttctacgagcggctcggcttcaccgtcaccgccgac geneticina con angua penetra como tale a tega tagica e tago ca e tago da angua tago da como de tago de la como GGGGAGCCTGGGGACTTTCCACACCCTAACTGACACACATTCCACAGCTGG TCTTTCCGCCTCAGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTT GTTAAAATTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAG GCCGAAATCGCCAAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGG GTTGAGTGTTCCAGTTTGGAACAAGAGTCCACTATTAAAGAACGTGGA CTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCAC

FIG. 31C.

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Inventor: John Joseph HARRINGTON et al.
Title: COMPOSITIONS AND METHODS FOR NON-TARGETED
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GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG **ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT** ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCG CCCAACGACCCCCCCCCATTGACGTCAATAATGACGTATGTTCCCATAGTA ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATG ACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT ATTACCATGGTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGATAGCG GTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAG TTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG CGATCGCCCGCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGA GGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTGAATTCTG ACGACCTACTGATTAACGGCCAGATCTAAGCTAGCGCCGCCACCATGGGCC CTAAAAAGAAGCGTAAAGTCGCCCCCCCGACCGATGTCAGCCTGGGGGAC GAGCTCCACTTAGACGGCGAGGACGTGGCGATGGCGCATGCCGACGCGCT AGACGATTTCGATCTGGACATGTTGGGGGACGGGGATTCCCCGGGGCCGG GATTTACCCCCCACGACTCCGCCCCCTACGGCGCTCTGGATATGGCCGACT TCGAGTTTGAGCAGATGTTTACCGATGCCCTTGGAATTGACGAGTACGGTGGGGAATTCAGGTGAGTACTCGCTACCTTAAggcctatctggcggtttaaacagatgtgtataagagacgctctcttaaGGTAGCCTGTCTCTTATACACATCTagatccttgctagagtcgaccaattctc tttgcatagggagggggaaatgtagtcttatgcaatacacttgtagtcttgcaacatggtaacgatgagttagcaacatgcc ttacaaggagagaaaaagcaccytycatyccgattygtygaagtaaggtygtacpatcytygtyccttattaggaaggcaaca paraggic trace togo tigge cracection ticcocat to cauge suggestation to the comparation of nact congenerate concentration and the control of t tetgergaen tegangeen tenengaeggen top top accety an tegerageggen tengen er tty teger toeg to ta atatt typeen tyg top nancegggergangang tty teen to ttog en en get ton acten and et gy top nacten eer ag gon ttog et gagaegaan accatattet en atanaeer et ttag og na tag geon got tte ee cyton en en ee et et e gcyaa ta ta tyty tagaaactyccoggaaa tcytcy tyy ta t tcactccagagcya tyaaaacy t t tcagtt tyctca tygaa eacogs to teace aggest gas care to teace to teace age teace of tett test to teace aggest teace aggest to a teace of the test teace aggest to the test to test to the test to test to the test to test tgatcttatttcattatggtgaaagttggaacetettacgtgeegateaacgteteattttegeeaaaTTAATTAAGG CGCGCCgctctcctggctaggagtcacgtagaaaggactaccgacgaaggaacttgggtcgccggtgtgtcgtat-

FIG. 32A.

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atggagg tagtagacctccctttaccacctaaggcgaggaactgcccttgctattccacaatgtcgtcttaccaccattgagtcyte teeee tt topaa topeeeetggeeeeggeeeaaaeetggeeegetaaggagteea ttgte tot ta tttea togte tt tt ta caaae tea ta tttge toagg tt toagga toegattaaggaeettg tha togeaaageeegeteetaeetgeaa ta te tracasacica in intrige ignight i gagga taga tit general quaggaet i girta in ingeneral per gagga taga tit general quaggaet quaggae gentatyctacccyga tacaga thigga tagca ta tactacccaga ta taga ttaga tagca ta tyctacccaga ta taga t tagga tagoc ta tactacco aga ta tana i tagga tagoa ta tactacco aga ta tagga tagga tagoa ta tactacco aga cctatgetaccagatataaattaggatageatatactaccagatatagattaggatageatatgetaccagatatagatta
ggatagectatgetacccagatatagattaggatageatatgetatecagatattgggatagtatatgetaeccatggeaca
ttageccaccgtgeteteagegacctegtgaatatgaggaccaacaaccctgtgettggegeteaggegeagtgtgtgtg
attigicctccagatcgegeatcgegeccatatettggeccgeccacctaettatgeaggatatteccggagtgeatta
gtggtttgtgggcaagtggtttgaccgcagtggttageggggttacaatcagccaagttattacacccttattttacagtcca atattggtgtcatagcacaatgccaccactgaacccccgtccaaattttattctgggggcgtcacctgaaaccttgttttcga genectenentacacettactyttenenactengenyttättetattagetanneganggagnatgangangenggegang attraggagagttractgreegeterttgatettrageractgreettgtgartaaaatggttractaccetegtggaateetg accreatgtaaataaaccgtgaragetratggggtgggagatatcgetgttrettaggareettttactaaccetaattrga tagcata tocttcccottggg taaccatatyctattgaattagggt tagtctggatagtatatactactacccgggaagcatatg GTCGATAGTGGCTCCAAGTAGCGAAGEGCGAGCAGGACTGGGCGGCGGCCAA AGCGGTCGGACAGTGCTCCGAGAACGGGTGCGCATAGAAATTGCATCAAC GCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCTGTCGAGCCATGTGAC CAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGGCCGCGTTGCTGGCG TTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAAAATCGACGCTCA AGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCGTTTCC CCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACCCTGCCGCTTACCGG ATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCGCTTTCTCATAGCTCA CGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCGCTCCAAGCTGGGCTGT GTGCACGAACCCCCGTTCAGCCCGACCGCTGCGCCTTATCCGGTAACTAT CGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGCCACTGGCAGCAGCC ACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGCGGTGCTACAGAGT-

FIG. 32B.

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TCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGGACAGTATTTGGTA TCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAGAGTTGGTAGCTCTT CTACGGGGTCTGACGCTCAGTGGAACGAAAACTCACGTTAAGGGATTTTG GTCATGAGATTATCAAAAAGGATCTTCACCTAGATCCTTTTATCGGTGTGA AATACCGCACAGATGCGTAAGGAGAAATACCGCATCAGGAAATTGTAAG CGTTAATAATTCAGAAGAACTCGTCAAGAAGGCGATAGAAGGCGATGCGC TGCGAATCGGGAGCGGCGATACCGTAAAGCACGAGGAAGCGGTCAGCCCA TTCGCCGCCAAGCTCTTCAGCAATATCACGGGTAGCCAACGCTATGTCCTGATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATGAATCCAGAAAAGC GGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCGCCATGGGTCACGA CGAGATCCTCGCCGTCGGGCATGCTCGCCTTGAGCCTGGCGAACAGTTCGG CTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCCTGATCGACAAGAC CGGCTTCCATCCGAGTACGTGCTCGCTCGATGCGATGTTTCGCTTGGTGGT CGAATGGGCAGGTAGCCGGATCAAGCGTATGCAGCCGCCGCATTGCATCA GCCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAGATGACAGGAGATC CTGCCCGGCACTTCGCCCAATAGCAGCCAGTCCCTTCCCGCTTCAGTGAC TGACAAAAAGAACCGGGCGCCCCTGCGCTGACAGCCGGAACACGGCGGCA TCAGAGCAGCCGATTGTCTGTTGTGCCCAGTCATAGCCGAATAGCCTCTCCACCCAAGCGGCCGGAGAACCTGCGTGCAATCCATCTTGTTCAATCATGCGA AACGATCCTCATCCTGTCTCTTGATCAGAGCTTGATCCCCTGCGCCATCAG **ATCCTTGGCGGCGAGAAAGCCATCCAGTTTACTTTGCAGGGCTTGTCAACC** cracectyleacetecoreage control of the control of th GACTITECACACCCTAACTGACACACATTCCACAGCTGGTTCTTTCCGCCTC AGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTTGTTAAAATTCGCG TTAAATTTTTTTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGC AAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTTGTT CCAGTTTGGAACAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAA GGGCGAAAAACCGTCTATCAGGGCGATGGCCCAC

FIG. 32C.

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Aventor: John Joseph HARRINGTON et al.
Title: COMPOSITIONS AND METHODS FOR NON-TARGETED
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GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCG CCCAACGACCCCCCCCCATTGACGTCAATAATGACGTATGTTCCCATAGTA ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA **ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT** ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATG ACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT ATTACCATGGTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGATAGCG GTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAG TTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG CGATCGCCCGCCCGTTGACGCAAATGGGCGTAGGCGTGTACGGTGGGA GGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTGAATTCTG **ACGACCTACTGATTAACGGCCAGATCTAAGCTAGCTTCCTGAAAGATGAAG** CTACTGTCTTCTATCGAACAAGCATGCGATATTTGCCGACTTAAAAAGCTC AAGTGCTCCAAAGAAAAACCGAAGTGCGCCAAGTGTCTGAAGAACAACTG **GGAGTGTCGCTACTCTCCCAAAACCAAAAGGTCTCCGCTGACTAGGGCACA** TCTGACAGAAGTGGAATCAAGGCTAGAAAGACTGGAACAGCTATTTCTACT GATTTTTCCTCGAGAAGACCTTGACATGATTTTGAAAATGGATTCTTTACA GGATATAAAAGCATTGTTAACAGGATTATTTGTACAAGATAATGTGAATAA AGATGCCGTCACAGATAGATTGGCTTCAGTGGAGACTGATATGCCTCTAAC ATTGAGACAGCATAGAATAAGTGCGACATCATCATCGGAAGAGAGTAGTA **ACAAAGGTCAAAGACAGTTGACTGTATCGCCGGAATTCAGGTGAGTACTC** GCTACCTTAAggectatetggccgtttaaacagatgtgtataagagacagetetettaaGGTAGCCTGTC
TCTTATACACATCTagateettgetagagtegaecaatteteatgtttgacagettateategeagateetgaget tgtatggtgcactctcagtacaatctgctctgctgccgcatagttaagccagtatctgctccctgcttgtgtgttggaggtcgc gatpaace tpaategeengegeatengeneet tigtegeet tigggatataatat tiggees tiggtgaaaacggggeenaag ang tigteen tat tiggeen cyf tan a ten aac tiggtgaan e ten eewiggat tigge tigge gannaen ta tietena t naaccett tagggan at nggeenggit titen eeg tan en ee ee ee tigegan ta tatg tigtnigan ac tigeggan teg togligg to the increase grant of the state o atacaacitytycttatttttacygtctttacaaaggccytaatatccagctyaacygtctygttataggtacattyagc

FIG. 33A.

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FIG. 33B.

TCGGTGTAGGTCGTTCGCTCCAAGCTGGGCTGTGTGCACGAACCCCCCGTT CAGCCCGACCGCTGCGCCTTATCCGGTAACTATCGTCTTGAGTCCAACCCG GTAAGACACGACTTATCGCCACTGGCAGCCACTGGTAACAGGATTAG CAGAGCGAGGTATGTAGGCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTA ACTACGGCTACACTAGAAGGACAGTATTTGGTATCTGCGCTCTGCTGAAGC CCGCTGGTAGCGGTGGTTTTTTTTGTTTGCAAGCAGCAGATTACGCGCAGAA AAAAAGGATCTCAAGAAGATCCTTTGATCTTTTCTACGGGGTCTGACGCTC AGTGGAACGAAAACTCACGTTAAGGGATTTTGGTCATGAGATTATCAAAA AGGATCTTCACCTAGATCCTTTTATCGGTGTGAAATACCGCACAGATGCGT AAGGAGAAAATACCGCATCAGGAAATTGTAAGCGTTAATAATTCAGAAGA ACTCGTCAAGAAGGCGATAGAAGGCGATGCGCTGCGAATCGGGAGCGGCG ATACCGTAAAGCACGAGGAAGCGGTCAGCCCATTCGCCGCCAAGCTCTTCA GCAATATCACGGGTAGCCAACGCTATGTCCTGATAGCGGTCCGCCACACCC AGCCGGCCACAGTCGATGAATCCAGAAAAGCGGCCATTTTCCACCATGATA TTCGGCAAGCAGGCATCGCCATGGGTCACGACGAGATCCTCGCCGTCGGG CATGCTCGCCTTGAGCCTGGCGAACAGTTCGGCTGGCGCGAGCCCCTGATG GGCAGGAGCAAGGTGAGATGACAGGAGATCCTGCCCGGCACTTCGCCCA ATAGCAGCCAGTCCCTTCCCGCTTCAGTGACAACGTCGAGCACAGCTGCGC AAGGAACGCCCGTCGTGGCCAGCCACGATAGCCGCGCTGCCTCGTCTTGCA GTTCATTCAGGGCACCGGACAGGTCGGTCTTGACAAAAAGAACCGGGCGC CCCTGCGCTGACAGCCGGAACACGGCGGCATCAGAGCAGCCGATTGTCTG TTGTGCCCAGTCATAGCCGAATAGCCTCTCCACCCAAGCGGCCGGAGAACC TGCGTGCAATCCATCTTGTTCAATCATGCGAAACGATCCTCATCCTGTCTCT TGATCAGAGCTTGATCCCCTGCGCCATCAGATCCTTGGCGGCGAGAAAGCC ATCCAGTTTACTTTGCAGGGCTTGTCAACCTTACCAGATAAAAGTGCTCAT cribed conferencia continuo con a construction of the conference o GCATACTTCTGCCTGCTGGGGAGCCTGGGGACTTTCCACACCCTAACTGAC ACACATTCCACAGCTGGTTCTTTCCGCCTCAGAAGGTACACAGGCAGAAATT GTAAGCGTTAATATTTTGTTAAAATTCGCGTTAAATTTTTGTTAAATCAGC-

FIG. 33C.

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TCATTTTTAACCAATAGGCCGAAATCGGCAAAATCCCTTATAAATCAAAA GAATAGACCGAGATAGGGTTGAGTGTTTCCAGTTTGGAACAAGAGTCCACTATTAAAGAACCGTCGACCTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCAC

FIG. 33D.

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transparages transparate to the control of the cont ga tago tegite a tetace tace tago cape a tago e tago cape a toro capa tago cape a garaga a ten tago cape a tago ca antgggganggccatccagcctcgcgtcgcgaacgccagcagacgtagcccagcgcgcgtcggccgccatgccg an applymanger a consider representation of the construction of th ennacina produce a pie produce de la constante toop to tracy to a grow you get a total group of the total group of the control o and the state of t atagagenttaceagetgeetenaagttaceagentatgeetgaetteegeegeegetetteetgeaggtetgtgttaatgaga tenaengeagnaeteenatgegeetetenaatgagaanaagaanaggeegeengeegaetentategtatttteetteeg ega ta teaci teca tga ega eagga tagtic tga gogt ta te tg teacaga tt tga gog tgg t teg teaca tt tgt te tga ee t

FIG. 34A.

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actgagggtaatttgtcacagttttgctgtttccttcagcctgcatggattttctcatactttttgaactgtaatttttaaggaagc coantitigagggcagtttgtcacagttgatttecttetettteeettegteatgtgacetgatateggggggttagttegteateat cacogctgcggcgcgcgcctagtgataataagtgactgaggtatgtgctcttcttatctcctttgtagtgttgctcttattftaaacaactttgcggttttttgatgactttgcgattttgttgttgctttttgcagtaaattgcaaggtttaataaaaaaacgcaaagcaatg attaaagga tytteagaa toaaactea togaaacaettaaeea otoea taaaege togtea toaa toaa toaegaagge ta teg ccattgcacagtttaatgatgacagcccggaagcgaggaaaataacccggcgctggagaataggtgaagcagcggattt agttggggtticttctcaggctatcagagatgccgagaagcagggcgactaccgcacccggatatggaaattcgaggac gggt tgagcaacgtgttggttatacaattgaacaaattaatcatatgcgtgatgtgtttggtacgcgattgcgacgtgctgaa gacy to titeccoccyg tya tegggg t tyetgeccea taaagg tygeg it lacaaaaccteay tttety ttea tettye teagga t ctggctctgaaggggctacgtgttttgctcgtggaaggtaacgacccccagggaacagcctcaatgtatcacggatgggt accaga tettea tattea tyeagaagaeaeteteetyeettteta tettyyyyaaaaggaega tyteaetta tyeaa taaage ccacttgctggccggggcttgacattattccttcctgtctggctctgcaccgtattgaaactgagttaatgggcaaatttgatg aagy taaac tycccaccga teeacacc tya tye teegac tygeca t tyaaac ty tye tea tyac ta tya ty tea tay ta t gacagegegectaacetgggtateggeacgattaatgtegtatgtgetgetgatgtgetgattgtteeceacgeetgetgagtt gtttgactacacctccgcactgcagtttttcgatatgcttcgtgatctgctcaagaacgttgatcttaaagggttcgagcctgat ggccattgatcaacgctcttcaaciggtgcctggagaaatgctcttictattigggaacctgtctgcaatgaaattttcgatcgt ctgattaaaccacgctgggagattagataatgaagcgtgcgcctgttattccaaaccatacgctcaatactcaaccggttga agatacttegttategacaccagetgeccegatggtggattegttaattgegegegtaggagtaatggetegeggtaatgee attactttgectgtatgtggtegggatgtgaagtttaetettgaagtgeteeggggtgatagtgttgagaagacetelegggt aacagacacceggcyttcggtcgaagagtatctggtgtcatagaaattgccgatgggagtcgccgtcgtaaagctgctgca cttaccgaaagtgattatcgtgttctggttggcgagctggatgatgagcagatggctgcattatccagattgggtaacgatta tegecceaceagtgettatgaacgtggteagegttatgeagecgattgeagaatgaatttgetggaaatatttetgegetgg ctgatgcggaaaatatttcacgtaagattattacccgctgtatcaacaccgccaaattgcctaaatcagttgttgctctttttct caccorregteance tatotecorregtence to a second control of the contr acytea tetgeateaagaactagtttaageteacyacateagtttgeteetggagegacagtattgtataagggegataaaat ggtgcttaacctggacaggtctcgtgttccaactgagtgtatagagaaaattgaggccattcttaaggaacttgaaaagcca gcaccctga tgcgaccacgittt tagtctacgt tta icigictt tactitaa tgtcct tigttacaggccagaaagca taactggcc to a tatte te te te to taga eget toge concidition et to tagte toget et gata a teaga et paga eco egy te ce actegita tegitegy fe to at tagite tyggaccaegy feccactegita tegitegy fe for the tragite tyggaccaegy t acggtcccactcgtatcgtcggtctgattattagtctgggaccacggtcccactcgtatcgtctggtctgattattagtctggg accompatecementering to the tempte to the te gagactacgattccatcaatgcctgtcaagggcaagtattgacatgtcgtcatcataacctgtagaacggagtaacctcggtgtg cpgttgtatgcctgctgtggattgctgctgtgtcctgcttatccacaacattttgcgcacggttatgtggacaaaatacctgC GCTAGAgaaaagagtttgtagaaacgcaaaaaggccatccgtcaggatggccttctgcttaattigatgcctggcagt aggagagegtteaccegacaaacaacagataaaacgaaaggeccagtetttegactgageetttegttttatttgatgeetgg contract tactetegea toggo aga cocca caca caca tegge get a cog cott teact tetga of tegge a toggo tea gjitgggaccaccgcgctactgccgccaggcaaattctgttttatcagaccgcttctgcgttctgggccgc

FIG. 34B.

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GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG **ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT** ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCG CCCAACGACCCCCGCCCATTGACGTCAATAATGACGTATGTTCCCATAGTA <u>ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA</u> ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCAGTACATG ACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT <u>ATTACCATGGTGATGCGGTTTTTGGCAGTACACCAATGGGCGTGGATAGCG</u> CTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAG TTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG CGATCGCCCGCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGA GGTCTATATAAGCAGAGCTcytttagtyaaccgtcagatcactgaattctgacgacctactgattaacggccattagtgggcctcctgcagaactgtcttagtgacaactatCGATTTCCACACATTATACGAGCCGAT GTTAATTGTCAACAGCTCATGCATGACGTCCCGGGAGCAGACAAGCCCCaccatggctcgagTAATACGACTCACTATAGGGCGACAGGTGAGTACTCGCTACCTT <u>AGAGAGGCCTATCTGGCCAGTTAGCAGTCGAAGAAAGAAGTTTAAGAGA</u> GCCGAAACAAGCGCTCATGAGCCCGAAGTGGCGAGCCCGATCTTCCCCAT CGGTGATGTCGGCGATATAGGCGCCAGCAACCGCACCTGTGGCGCCGGTG ATGCCGGCCACGATGCGTCCGGCGTAGAGGATCCACAGGACGGGTGTGGT CGCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCGAGCAGGA CTGGGCGGCGGCCAAAGCGGTCGGACAGTGCTCCGAGAACGGGTGCGCA1 AGAAATTGCATCAACGCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCT GTCGAGCCATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAG GCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCCTGACGAGCATCAC AAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAG **ATACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGAC** CCTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGC GCTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCG CTCCAAGCTGGGCTGTGTGCACGAACCCCCGTTCAGCCCGACCGCTGCGC TTATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATC GCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAG GCGGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAA GGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAA GAGTTGGTAGCTCTTGATCCGGCAAACAAACCACCGCTGGTAGCGGTGGTT TTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAGAA GATCCTTTGATCTTTCTACGGGGTCTGACGCTCAGTGGAACGAAAACTCA CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATC CTTTTatcpgtgtgaaataccgcagatgcgtaaggagaaaataccgcatcaggaaattgtaagcgttaataattcag angone teg tenngangerga taganggega tageng tageng tageng tageng tageng tageng tangeng tageng t congectacon to national teconomic and the control of the control o Bucondatactaccccadacectachcacaia tancana anticoctaccateccate contractacaia contractaca contractaca genaggancycccytegtggecagecaegatagecgegetgectegtettgeagtteatengggeneeggaenggte-

FIG. 35A.

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ggtcttgacaaaaagaaccgggcgcccctgcgctgacagccggaacacggcggcatcagagcagccgattgtctgttgt general features of the second control of th gateceteatectgatetettgateagagettgateceetgegeeateagatecttggeggegagaageeatecagtttaettt geagggettgteaacettaceagatAAAAGTGCTEATCATTGGAAAACGTTCAATTCTGAG GCGGAAAGAACCAGCTGTGGAATGTGTGTCAGTTAGGGTGTGGAAAGTCC CCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCA AAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCGCCCCTAACTCCGCC CATCCCGCCCTAACTCCGCCCAGTTCCGCCCATTCTCCGCCCCATGGCTG ACTAATTTTTTTTATTTATGCAGAGGCCGAGGCCGCCCCGGCCTCTGAGCT ATTCCAGAAGTAGTGAGGAGGCTTTTTTTGGAGGCCTAGGCTTTTGCAAAAA GCTTGATTCTTCTGACACACAGTCTCGAACTTAAGGCTAGAGCCACCATG ATTGAACAAGATGGATTGCACGCAGGTTCTCCGGCCGCTTGGGTGGAGAG GCTATTCGGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGC CGTGTTCCGGCTGTCAGCGCAGGGGCGCCCGGTTCTTTTTGTCAAGACCGA CCTGTCCGGTGCCCTGAATGAACTGCAGGACGAGGCAGCGCGGCTATCGT GGCTGGCCACGACGGGCGTTCCTTGCGCAGCTGTGCTCGACGTTGTCACTG AAGCGGGAAGGGACTGCTGCTATTGGGCGAACTGCCGGGGCAGGATCTC CTGTCATCTCACCTTGCCCGAGAAAGTATCCATCATGGCTGATGCA **ATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGACCACCAA** GCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGT CGATCAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAAC TGTTCGCCAGGCTCAAGGCGCGCGCATGCCCGACGGCGAGGATCTCGTCGTG ACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGGAAAATGGCCGCTTT TCTGGATTCATCGACTGTGGCCGGCTGTGGCGGACCGCTATCAGGAC **ATAGCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCT** GACCGCTTCCTCGTGCTTTACGGTATCGCCGCTCCCGATTCGCAGCGCATC GCCTTCTATCGCCTTCTTGACGAGccaTTCtgctggcaggtaagtcgcagccctggcgtcgtgatt agiga iga iga agaccaggi ta igacci iga itta tittigca taccia a toa tia igo iga ga ittigga aagga ig itta itocica tggactaattatggacaggactgaacgtcttgctcgagatgtgatgaaggagatgggaggccatcacattgtagccctctg tgtgctcaaggggggctataaattctttgctgacctgctggattacatcaaagcactgaatagaaatagtgatagatccattc ctatgactgtagattttatcagactgaagagctattgtaatgaccagtcaacaggggacataaaagtaattggtggagatgat ctctcaactttaactggaaagaatgicttgattgtggaagatataattgacactggcaaaacaatgcagacttgettecttg ptraggragta taa treaaaga tegtraage tegraage titer teg teaaagearre careaagte tega ta taager agactityttggatttgaattccagacaagtitytytaggatatgcccttgactataatgaatactcagggatttgaatcat gtttgtgtcattagtgaaactggaaagcaaatacaagcctaaGCGGCCGCTAACCTGGTTGCTGA CTAATTGAGATGCATGCTTTGCATACTTCTGCCTGCTGGGGAGCCTGGGGA CTTTCCACACCCTAACTGACACACATTCCACAGCTGGTTCTTTCCGCCTCAG AAGGTACACAGGCGAAATTGTAAGCGTTAATATTTTGTTAAAATTCGCGTT AAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAGGCCGAAATCGGCAA AATCCCTTATAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTTGTTCC **AGTTTGGAACAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAG** GGCGAAAAACCGTCTATCAGGGCGATGGCCCAC

FIG. 35B.

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FIG. 36.

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<u>GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA</u> TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA CATTTATATTGGCTCATGTCCAATATGACCGCCATGTTGGCATTGATTATTG ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT ATGGAGTTCCGCGTTACATAACTTACGGTAAATGGCCCGCCTGGCTGACCG CCCAACGACCCCCGCCCATTGACGTCAATAATGACGTATGTTCCCATAGTA ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT ATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCCACTACATG ACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTAGTCATCGCT ATTACCATGGTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGATAGCG GTTTGACTCACGGGGATTTCCAAGTCTCCACCCCATTGACGTCAATGGGAG TTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG CGATCGCCCGCCCCGTTGACGCAAATGGGCGGTAGGCGTGTACGGTGGGA **GGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTGAATTCTG** ACGACCTACTGATTAACGGCCATAGAGGCCTCCTGCAGAACTGTCTTAGTG ACAACTATCGATTTCCACACATTATACGAGCCGATGTTAATTGTCAACAGC TCATGCATGACGTCCCGGGAGCAGACAAGCCCGACCATGGCTCGAGTAAT ACGACTCACTATAGGGCGACAGGTGAGTACTCGCTACCTTAAggcctatctggccg titaaacagatgtgtataagagacagctctcttaaGGTAGCCTGTCTCTTATACACATCTagatccttg congetatacocotta tetganogo etagogtatattago coccane egogget tegottataco constinguante ce etagosta tagtant ticgett tigos tanoganogo go ana triang et tratgos a tacae eta tagte etigos acatanta coatgant tagcanca tocct tacangangananang coccatoca toccoat tagtagang tangataga tog tog tacta tragangang concapacang tog tagta tog a tragant to gas tragangan aganggtanacagan tetggtgatta tgggtangangacetggttetecatteetgagangan tegacetttanagggtaga attuatttagttetagengagaetenngganeetennggageten tittettteengangtetagatgateettanan ettaetganen occupan tingen na tanag tagaca tggtetgga tagttggtggengt tetgttta tanggangeen tga ateneeenggeen tettanaetattlgtgaangga ten tgen ngactttganag tgacacgttttteengan attgatttgg acty tigita a tica tta agent te tycega co typange contenenga eggen typity an ectivante i jecong eggen ten genee tigitege et gegta ta ata titye een tigity an an eggegge pangang tigit een ta tigge en egge en gegeen gett naar tygigana et en een eggen tigge tynga eggan an en it a tie ten tann een et tingegan a tygge en gett ti and the state of t a tytogic traceccatigagic icocctitiggaa tygoccccigacccagoccacacciggcccgctaaggaagt catigic ig tattica iggic ittliacaaacica ta in tiig cigaggit itgaagga ig cgatiaaggacciig tia igaca

FIG. 37A.

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agcccpetectocetycaatateagggtgactgtgtgcagetttgacgatggagtagatttgcctccctggtttccacctatg giggonggggetpccgcggaggitga taaccggaga tgaccggaga taanggcggtga tgaggaga tgaggaga tgaggaatgaggaag ggcaggagtga tgtaact tgt taggagacgccctcaa tcgta t taanagccgtgta t teccccgcac taaagaa taan tecc cogtagacatcatgcgtgctgttggigtatltctggccatctgtcttgtcaccattttcgtcctcccaacatggggcaattggg cataccea tat to texeco texecteage tecape et cancace et te teges tigga a a a catace tage ga ex titace tage ga ex antcagaca tocoacogetttagectogectecttaan tteneetangan togoaconecagen tocagoana goaca agragegaaaat traegreece ttgggaggtggeggeatatgeaaaggatagractereectetactactgggtatratat getgaetgtatatgeatgaggatagratatgetareeggataragattaggatageatataceceagatatgattaggat agenta tye ta eccaga ta taga t tagga tagenta tye ta eccaga ta taan t tagga tagen ta ta eta eccaga ta taga t tagga tagga ta tagtacccaga ta tagga tagga tagga ta tagca ta taga ta tagga tagga tagga tagga tagca ta tagtacccaga a ta tagga a a tete ta t tingga ta gen ta tye ta eccepya ta caga t tingga ta gen ta ta eta eccepya ta taga t tingga ta gen ta taga t tingga taga ta taga t tingga t ting gen ta toctacccaga ta taga t tagga tagcc ta toctacccaga ta taga t tagga tagca ta tocta tecaga ta t taga g tag ta ta toc ta cocca tog caa cat tag cocca cog toc to toa occa tog toga ta toa og ga coa acaa cocto tog tt gracing the content of the content o gaccettttactaaccetaattepatageatatgetteeegttoggataacatatgetättoaattagogttagtetoggatagtat a tactactaccogggaagca ta toctacccott tagggt taacaagggggcctta taaaacactaf toctaa toccctcttgag potcepettateggitagetacacaggecectetgatifacqttogigitagecteccqtagtettectgggcecetgggaggt acatytecceccageattygtytaagagetteagecaagagttacacataaaggeaatgttytytytyeagtecacagactyca aggic type te congo typinage court control type and type control to the transport type account court of the c a trace trace translation and the control of the co TGGGCGGCGGCCAAAGCGGTCGGACAGTGCTCCGAGAACGGGTGCGCATA GAAATTGCATCAACGCATATAGCGCTAGATCCTTGCTAGAGTCGAGATCTG TCGAGCCATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGG CCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCCTGACGAGCATCACA AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGA TACCAGGCGTTTCCCCCTGGAAGCTCCCTCGTGCGCTCTCCTGTTCCGACC CTGCCGCTTACCGGATACCTGTCCGCCTTTCTCCCTTCGGGAAGCGTGGCG CTTTCTCATAGCTCACGCTGTAGGTATCTCAGTTCGGTGTAGGTCGTTCGCT CCAAGCTGGGCTGTGCACGAACCCCCGTTCAGCCCGACCGCTGCGCCT TATCCGGTAACTATCGTCTTGAGTCCAACCCGGTAAGACACGACTTATCGC CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC GGTGCTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAG GACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAAAAAG AGTTGGTAGCTCTTGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTT-

FIG. 37B.

TTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAAGGATCTCAAGAA GATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAACGAAACTCA CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACCTAGATC CTTTTATCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAATACCGCAT CAGGAAATTGTAAGCGTTAATAATTCAGAAGAACTCGTCAAGAAGGCGAT AGAAGGCGATGCGCTGCGAATCGGGAGCGGCGATACCGTAAAGCACGAGG AAGCGGTCAGCCCATTCGCCGCCAAGCTCTTCAGCAATATCACGGGTAGCC AACGCTATGTCCTGATAGCGGTCCGCCACACCCAGCCGGCCACAGTCGATG AATCCAGAAAAGCGGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCG CCATGGGTCACGACGAGATCCTCGCCGTCGGGCATGCTCGCCTTGAGCCTG GCGAACAGTTCGGCTGGCGCGAGCCCCTGATGCTCTTCGTCCAGATCATCC TTCGCTTGGTGGTCGAATGGGCAGGTAGCCGGATCAAGCGTATGCAGCCG CCGCATTGCATCAGCCATGATGGATACTTTCTCGGCAGGAGCAAGGTGAG ATGACAGGAGATCCTGCCCGGCACTTCGCCCAATAGCAGCCAGTCCCTTC CCGCTTCAGTGACAACGTCGAGCACAGCTGCGCAAGGAACGCCCGTCGTG GACAGGTCGGTCTTGACAAAAAGAACCGGGCGCCCCTGCGCTGACAGCCG GAACACGGCGCATCAGAGCAGCCGATTGTCTGTTGTGCCCAGTCATAGCC GAATAGCCTCTCCACCCAAGCGGCCGGAGAACCTGCGTGCAATCCATCTTG TTCAATCATGCGAAACGATCCTCATCCTGTCTCTTGATCAGAGCTTGATCC CCTGCGCCATCAGATCCTTGGCGGCGAGAAAGCCATCCAGTTTACTTTGCA **GGGCTTGTCAACCTTACCAGATAAAAGTGCTCATCATTGGAAAAattcaattcgt** cpacetegaaattetacegggtaggggaggegetttteceaaggeagtetggageatgegetttageageeeegetggge acttggcgctacacaagtggcctctggcctcgcacacattccacatccaccggtaggcgccaaccggctccgttctttggt goccccttcgcgccaccttctactccttagtcaggaagttccccccgccccgcanctcgcgtcgtgcaggacgtg acana togana tagcaco teteaetap teteopto en agatogacan general togano en gano en gano en gano en gano en gano e gengeggeena tagengett tgeteet tegett tetgggetengaggetggnanggggtgggteegggeteng ccignatacnageccnaegataegectegeciaecageacagneateccecagagecatnegeneectegecacageattea ccgactaccccgccacgcgccacaccgtcgacccggaccggccacatcgagcgggtcaccgagctgcaagaactcttcct cococog teggge tegaca teggerago to togge tegegga egacog egegg teggegg te togacea egeco gagagen tegangegoppocogtat tegeogen tegge eer tage eer t 949 place de contrata de la contrata del la contrata de la contrata del la contrata de la contrata del la contrata de la contrata de la contrata de la contrata de la contrata del la contrata del la con gicpaggigcccgaaggaccgcgcacciggtgcatgacccgcaagcccggtgcctgacgcccgcccacgacccgca genecegaceganagganegeacegaceceategategategateggeactgggeaggtangtateanggttageGGCCGC ŤĂĂĊČŢĠĠŢŢĠĊŢĠĄĊŢĄĄŢĬĠĄĠĂŢĠĊĄŢĠĊŢŢŢĠĊĄŢĄĊŢŢĊŢĠĊĊŢĠĊŢ GGGGAGCCTGGGGACTTTCCACACCCTAACTGACACACATTCCACAGCTGG TTCTTTCCGCCTCAGAAGGTACACAGGCGAAATTGTAAGCGTTAATATTTT GTTAAAATTCGCGTTAAATTTTTGTTAAATCAGCTCATTTTTTAACCAATAG GCCGAAATCGGCAAAATCCCTTATAAATCAAAAGAATAGACCGAGATAGG GTTGAGTGTTGTTCCAGTTTGGAACAAGAGTCCACTATTAAAGAACGTGGA CTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCCAC

FIG. 37C.

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